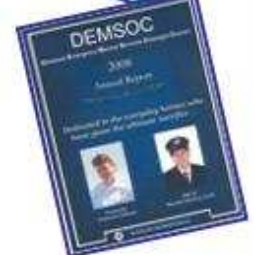
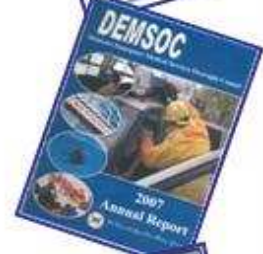
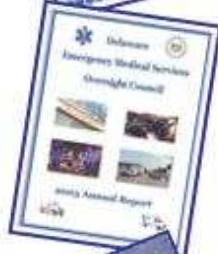


DEMSOC

Delaware Emergency Medical Services Oversight Council

10th Annual Report **2009**

*A Decade of
Achievements...*



The Honorable Jack Markell, Governor

Page left Blank Intentionally



DELAWARE EMERGENCY MEDICAL SERVICES OVERSIGHT COUNCIL

April 15, 2010

To the Citizens of Delaware:

On Behalf of Governor Jack Markell and the Delaware Emergency Medical Services Oversight Council (DEMSOC), I am pleased to present the 2009 DEMSOC Annual Report.

The purpose of this report is to inform others about Delaware's Emergency Medical Services (EMS) system and increase awareness of the issues that most directly affect the delivery of EMS and the quality of EMS patient care. Throughout the year, we have witnessed great achievements in the EMS community and this report attempts to capture those successes as well as to build the framework for addressing the challenges that lie ahead.

DEMSOC was created in 1999 in response to House Bill 332, otherwise known as the EMS Improvement Act, to promote the continuous development and improvement of Delaware's EMS System. DEMSOC noted 10 years of service to the EMS system in Delaware this year. This report will focus on accomplishments the EMS system has made over this past decade. Some of the remarkable improvements include transitioning the level of Basic Life Support (BLS) training from ambulance attendant to the national curriculum of Emergency Medical Technician-Basic (EMT-B), increasing air medical coverage by the Delaware State Police to 24 hours, 7 days a week, and implementing the Priority Medical Dispatching (PMD) to help dispatchers triage a medical 911 call and send the appropriate resources for the ill or injured individual. Moving forward, we expect to increasingly focus our efforts on those areas where we can make a significant difference in improving human health.

As you review this year's report, I encourage you to use the information provided to become more aware of the important role of our EMS system in Delaware, and I ask for your continued support for the dedicated professionals and volunteers that work hard to ensure that our EMS system remains a leader among its peers.

Respectfully yours,

Lewis Schilliro, Secretary
Department of Safety and Homeland Security

Page left Blank Intentionally

TABLE OF CONTENTS

6	<i>INTRODUCTION</i> What We Do
9	<i>DELAWARE EMS SYSTEM OVERSIGHT</i> DEMSOC Office of EMS State Fire Prevention Commission EMS Medical Directors
25	<i>EMS SYSTEM AND EVALUATION</i> Decade of Achievements EMS Memorial Bike Ride Continuum of Care EMS System Evaluations Prehospital Patient Care Report Clinical Performance Response Time Performance System Cost
49	<i>SPECIALTY CARE</i> Trauma EMSC Cardiovascular Care Domestic Preparedness Education and Training
73	<i>EMS SYSTEM RESOURCES</i> Emergency Department and Diversion Data Human Resources and Workforce Development Material Resources Public Health Preparedness
87	<i>NEW CASTLE COUNTY</i>
113	<i>KENT COUNTY</i>
131	<i>SUSSEX COUNTY</i>
153	<i>AVIATION</i>
169	<i>PREVENTION</i> Injury Prevention Safe Kids SNAP First State, First Shock! Infection Control CODES
193	<i>APPENDIX</i>



INTRODUCTION

The Delaware Emergency Medical Services Oversight Council (DEMSOC) Annual Report represents a source of information for those interested in the progress of the state's EMS system. The inaugural report in 2000 allowed DEMSOC to begin the process of establishing a baseline from which to measure the impact of future changes and growth in Delaware's EMS system. DEMSOC presents this 10th Annual Report in accordance with Title 16, Chapter 97, Section 9703 of the Delaware Code.

It is DEMSOC's vision that Delaware's EMS system represents true excellence in out-of-hospital healthcare. Integrated within Delaware's EMS system is emergency dispatch, emergency response, community health interventions, and prevention. DEMSOC is proud of the courageous public servants who keep our EMS system running and is committed to helping them provide the best possible service to the citizens and visitors of Delaware.

As you read this Annual Report, we are confident that you will also be proud of the State of Delaware's Emergency Medical Services and the progress that has been made over the last 10 years. DEMSOC members are encouraged by the system's successes, optimistic about what the future may bring and look forward to enhancing the services provided to the State.



WHAT WE DO:

Emergency Medical Services is a system of services organized to provide rapid response to serious medical emergencies, including immediate medical care and patient transport to definitive care in an appropriate medical setting. An effective EMS system involves a variety of agencies and organizations working together to accomplish the goal of providing rapid emergency medical response and treatment. EMS in Delaware includes:

- Public safety dispatch centers
- Fire services
- Ground and air ambulance services
- Law enforcement agencies
- County paramedic services
- Training institutions and organizations
- Citizen, professional, and technical advisory groups
- Local and State EMS agencies
- Other governmental and voluntary organizations
- Hospitals and specialty care centers

WHO WE ARE:

1,134	Certified First Responders
1,237	EMT-Basics
264	Paramedics
165	Dispatchers
7	Medical Directors
67	Regulatory, Managerial & Support Personnel (<i>DEMSOC, OEMS, SFPC, DE State Fire School</i>)

SERVICES PROVIDED TO THE STATE OF DELAWARE AND VISITORS:

In Delaware, the three counties are covered by 65 Basic Life Support (BLS) volunteer ambulance agencies, three paramedic programs operated by the county governments, a state police aviation division, 11 private ambulance companies, 1 specialty hospital transport service, and 7 air medical interfacility services. Each agency that responds in the EMS system receives direction from a certified dispatch center.

206	BLS ambulances providing 911 services
87	BLS ambulances providing non-emergency services
19 Full Time & 3 Part Time	ALS units providing 911 services
5	ALS Supervisor units
6	Air Medical helicopters
0	ALS units providing non-emergency services

Transportation of patients is provided predominantly by volunteer BLS fire based ambulance services, and the Delaware State Police Aviation Section. Integrated into the ambulance transport system are chase vehicles operated by three countywide paramedic systems that provide advanced medical treatment to patients. In 2009, EMS responded to the following incidents (*information based on Delaware patient care reports*):

169,761	Statewide Total Run Reports	129,198	Medical Incidents
105,683	Basic Life Support Incidents	29,023	Trauma Incidents
63,642	Paramedic Incidents	10,041	Pediatric Incidents (0-17yrs)
286	Air Medical Transports	9,077	Cardiovascular Incidents

Page Left Blank Intentionally

Delaware System Oversight



11 **DEMSOC**



13 **Office of EMS**



17 **State Fire Prevention
Commission**



20 **EMS Medical Direction**

Page left Blank Intentionally

Delaware Emergency Medical Services Oversight Council

DEMSOC

The Delaware Emergency Medical Services Oversight Council (DEMSOC) was formed pursuant to the Delaware Emergency Medical Services Improvement Act of 1999 (HB332). The council is charged with monitoring Delaware's EMS system to ensure that all elements of the system are functioning in a coordinated, effective, and efficient manner in order to reduce morbidity and mortality rates for the citizens of Delaware. It is also charged to ensure the quality of EMS services in Delaware.



Front Row:

Kevin Wilson
Lawrence Tan
Karyl Rattay, MD
Glenn Tinkoff, MD
Debbie Vincent
Hon. Lewis Schiliro
Steven Blessing

Back Row:

Mike Branch
Glen Luedtke
Ross Megargel, DO
Steve Catalano
Wayne Smith
Edward Marecki
Gregory Patterson
Kenneth Dunn

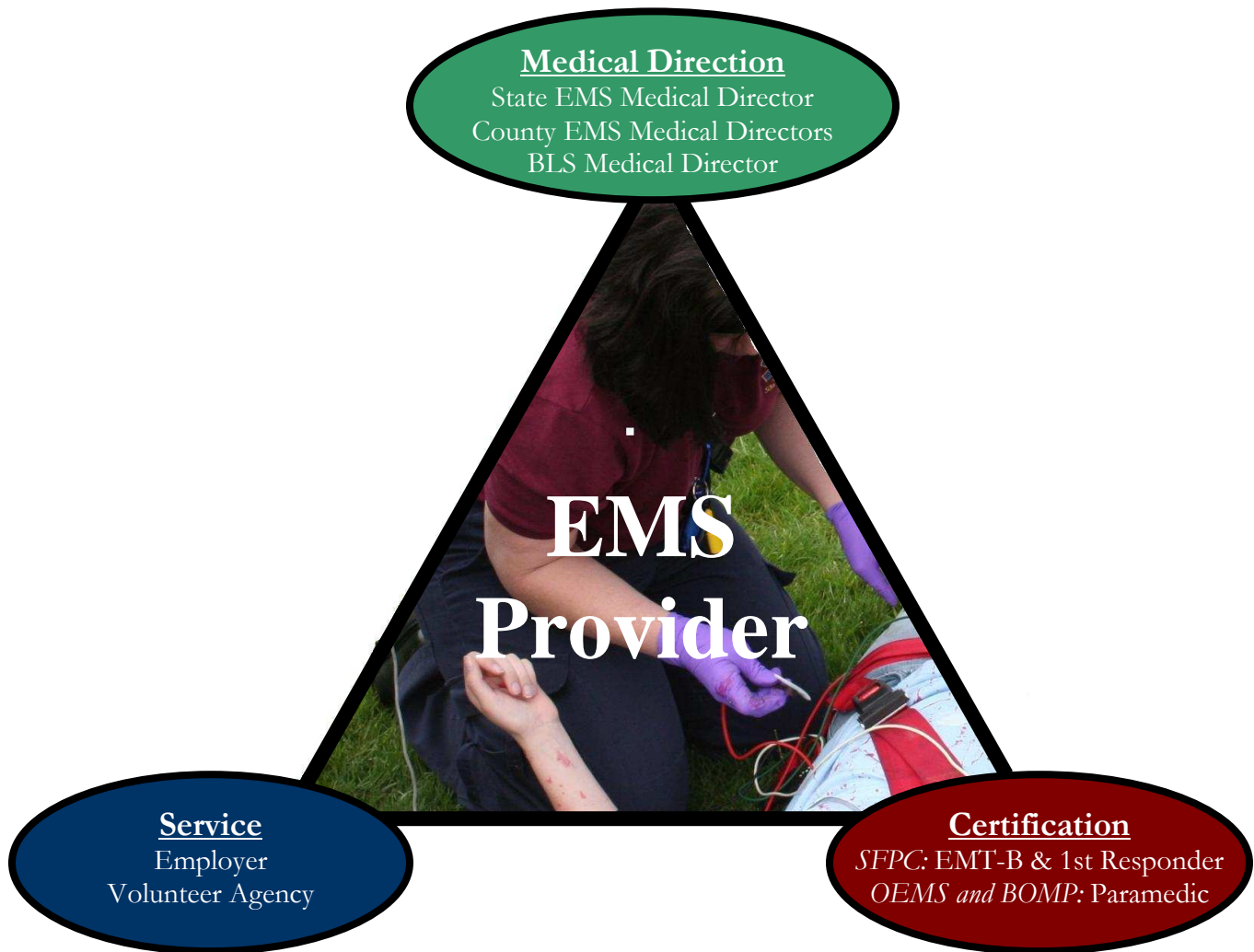
Not Pictured:

Rita Landgraf
Robert Stuart
Colin Faulkner
Robert Ricker
Keith Mark
Ed Alexander, MD
Heather Farley, MD
Robert Coyle, Jr.

DEMSOC consists of 19 members appointed by the Governor. The Secretary of The Department of Safety and Homeland Security, Lewis Schiliro, serves as the chairman. Also serving on the Council is the Secretary of Delaware Health and Social Services, Rita Landgraf. DEMSOC also includes representatives from the following agencies: the Governor's Office, each county government, the Delaware State Fire Prevention Commission, the Delaware Volunteer Firefighter's Association and its Ambulance Committee, the Delaware Healthcare Association, the Delaware Police Chief's Council, the Delaware Chapter of the American College of Emergency Physicians, the State Trauma System Committee, the Medical Society of Delaware, the Delaware State Police Aviation Section, and the State EMS Medical Director. There is a representative for practicing field paramedics and there are three at-large appointments for interested citizens, one from each county. The Delaware Office of Emergency Medical Services provides staff support for DEMSOC. The Office of Emergency Medical Services is assigned to Delaware Health and Social Services' Division of Public Health and is the regulatory authority for the paramedic system and provides medical oversight to the state's EMS system.

Delaware is a frontline leader in prehospital emergency care through comprehensive coordination, development and evaluation of the statewide emergency medical services system. The Delaware EMS system is a two tiered EMS delivery system with shared oversight of Basic Life Support services and personnel by the State Fire Prevention Commission and Advanced Life Support services and personnel by the Office of EMS within the Division of Public Health within the Department of Health and Social Services. Coordination of the activities of these two entities is under the Delaware Emergency Medical Services Oversight Council established by law and appointed by the Governor.

Delaware EMS Oversight Triangle



There are two separate oversight agencies within Delaware for EMS providers:

The Office of Emergency Medical Services (OEMS) which regulates Advanced Life Support (ALS) agencies in regards to certification, education/training, and medical control.

The Delaware State Fire Prevention Commission (SFPC) which oversees Basic Life Support (BLS) services through the Ambulance service regulations. These regulations address administrative, operational, and provider requirements. This includes emergency as well as non-emergency ambulance services.

EMS Medical Direction is provided by emergency medical physicians that are employed by the Office of EMS. They provide medical direction to both Advanced Life Support (ALS) and Basic Life Support (BLS) services.

Office of Emergency Medical Services

OEMS

The Office of Emergency Medical Services is a section within the Division of Public Health, Department of Health and Social Services. It plays a vital role in the integration of emergency medical services into the state's public health system.



Front Row:

Laurie Lin
Janice Cassidy
Marjorie Weber
MarySue Jones

Middle Row:

Cindi Chaimowitz
Jim Domorod
Janet Leitch
Marie Renzi
Debbie Vincent
Sandy Hypes

Back Row:

Steve Blessing, Director
Kathy Spahr
Britany Robinson
VaShita Pierce
Kathi Fletcher
Ross Megargel, DO
Al Sherman
Diane Hainsworth

Not pictured:

Michelle Johnson
Fred Haas
Beth MacDonald

MISSION:

The mission of the Office of Emergency Medical Services is to assure a comprehensive, effective, and efficient statewide emergency medical care delivery system in order to reduce morbidity and mortality rates for the citizens of Delaware. The OEMS ensures quality of emergency care services, including trauma and prehospital advanced life support capabilities, through the coordination and evaluation of the emergency medical services system, within available resources.

PHILOSOPHY:

The OEMS is committed to ensuring high quality prehospital care for the citizens of Delaware. This agency supports the concepts of continuous quality management for all services it provides. The OEMS believes that the personnel working in the prehospital system take pride in their work and are motivated by a desire to achieve individual and system-wide excellence in the provision of prehospital care. Quality management is seamlessly integrated into the work of Delaware prehospital services to the extent that the concepts of quality management are indistinguishable from the daily work of the prehospital provider. The Office of Emergency

Medical Services administers and enforces emergency medical services statutes, regulations, programs, and policies.

Responsibilities of this agency include:

Advanced Life Support Services (ALS): The OEMS ensures highly trained paramedics are providing quality emergency care to the citizens and visitors of Delaware. The OEMS is responsible for coordination of training, certification, financing, and oversight of the state's paramedic system.

Statewide Trauma System & Injury Prevention: This program is responsible for coordination of hospitals and provider agencies to ensure optimal care for trauma patients and serves as a leader in statewide injury prevention efforts.

Prehospital Patient Care Reports: The EMS Data Information Network (EDIN) system collects EMS report data electronically on a real-time basis and provides administrators with a powerful resource management, and research tool. The EDIN system collects, at minimum, over 130 data points covering demographic, assessment, and treatment phases of an EMS incident.

EMS Medical Direction: This program is responsible for providing medical oversight of the statewide EMS system (Advanced/Basic Life Support, and emergency medical dispatch), review and modification of the statewide standard treatment protocols, oversight of medical command facilities, conducting research and oversight of the statewide EMS quality assurance program.

Emergency Medical Services for Children (EMSC): The goal of this program is to improve emergency care for children in the State Of Delaware through specialized activities. The Special Needs Alert Program (SNAP) and Safe Kids are part of the programs within EMSC.

First State, First Shock Early Defibrillation Program: This program is responsible for providing data collection, training, and prevention activities in support of initiatives to reduce cardiac arrest deaths in Delaware.

Crash Outcome Data Evaluation System (CODES): This program analyzes data to gain a more comprehensive understanding of the causes and impacts, both medical and financial, of motor vehicle crashes, and is better equipped to develop injury prevention programs with demonstrated potential for improved outcomes.

Poison Control Center Programs: The OEMS administers Delaware's contract with the Poison Control Center (PCC) at The Children's Hospital of Philadelphia to provide a 24-hour-a-day emergency hotline for poisoning incidents and poison information for Delaware residents.

EMS Infectious Disease Exposure Monitoring: The need for an effective infection control program has always been an essential and integral part of the prehospital practice in Delaware, because there is both the risk of healthcare providers acquiring infections themselves, and of

them passing infections on to patients. Preventive and proactive measures offer the best protection for individual and organizations that may be at an elevated exposure to these infectious diseases.

State Regulations promulgated through OEMS:

Delaware Trauma System Regulation: The State Trauma System regulations were first promulgated in 1997 to add detail to the Trauma System enabling legislation of 1996. Subsequent revisions were enacted in 1999 and 2001. The regulations include sections on the Trauma Center Designation Process, Trauma Center Standards, Triage, Transport, and Transfer of Patients, and the Trauma System Quality Management Plan.

Air Medical Ambulance Service Regulation: The purpose of this regulation is to provide minimum standards for the operation of Air Medical Ambulance Services in the State of Delaware. These regulations intend to ensure that patients are quickly and safely served with a high standard of care and in a cost-effective manner.

Early Defibrillation Provider Regulation: The purpose of this regulation is to establish the criteria for training and the right for emergency responders to administer automatic external cardiac defibrillation in an out-of-hospital environment.

Advanced Life Support Interfacility Transfer Regulation: The purpose of this regulation is to permit the use of paramedics, under the oversight of the Division of Public Health, to manage patients while in transit between medical facilities or within a healthcare system. It includes approval of an organization to provide service using paramedics, as well as define their scope of practice and medical oversight. Data reporting to the Division of Public Health is included for the purposes of evaluating the performance of the State EMS system, of which interfacility transport is a component, regardless of the level of medical care provided.

Prehospital Advanced Care Directive Regulation: On July 10, 2003, legislation was signed into Delaware law to adopt a Prehospital Advanced Care Directive (PACD). A Delaware Prehospital Advanced Care Directive is a specific order initiated by the individual and signed by a physician stipulating a specific authority to follow and adhere to a terminally ill patient's medical care and treatment wishes. The PACD form is a standardized document that can be immediately verified by pre-hospital personnel. In any situation where pre-hospital personnel have a good faith basis to doubt the validity of a signed PACD form, the provider is directed to resuscitate and contact on-line medical control. Should the PACD form be located and presented to pre-hospital personnel once life saving efforts have commenced, prehospital personnel will alter their course of action immediately based on information contained in the signed PACD form. The regulation also details the legislated immunity for certified providers honoring this order.

OEMS Board and Committee Memberships:

Organ and Tissue Donor Awareness Board: The Office of EMS provides staff support to the Delaware Organ and Tissue Donor Awareness Board. Created by Delaware Code, Title 16, Chapter 27, Anatomical, Gifts and Studies, Section 2730, this Governor-appointed board has the responsibility of promoting and developing organ donor awareness programs in Delaware.

These programs include, but are not limited to, various types of public education initiatives aimed at educating residents about the need for organ donation and encouraging them to become designated organ donors through the State driver's license program. As of 12/31/09, there were 551 Delaware residents waiting for an organ transplant. In 2009, 75 Delawareans were organ transplant recipients and 48 families donated their loved one's organs after death. Approximately 302,400 (42%) of Delaware drivers have designated themselves as organ donors on their drivers licenses to date.

In summary, the Office of EMS supports provisions of life-saving medical care to the residents and visitors of Delaware by overseeing and ensuring that responders are fully trained and emergency systems are functioning efficiently and effectively. This ensures a safer and healthier place to live for all Delawareans.

The OEMS has representation on the following committees:

- DEMSOC
- Domestic Preparedness
- National Association of State EMS Officials
- Maternal Child Health Steering Committee
- Organ and Tissue Donor Awareness Board
- National Trauma-EMS Stakeholders Committee
- Coordinating Council for Children with Disabilities
- Accreditation of Educational Programs for the EMS Professions (CoAEMSP)
- Child Death, Near Death and Stillbirth Commission
- American College of Surgeons' Trauma System Consultation -site visit review
- Statewide Interpretative and Emergency Communication
- New Castle County EMS Advisory Committee
- Sussex County EMS Advisory Council
- ALS Standard Subcommittee of the Board of Medical Practice
- Delaware Chapter of the American College of Emergency Physicians
- Delaware Chapter of the Committee on Trauma
- Delaware Chapter of the American Trauma Society
- American Heart Association's Delaware Mission Lifeline
- Medical Information System Committee
- Traffic Records Coordinating Council "Core Team"
- DPH Section Chiefs Meeting
- CODES
- EMS Dispatch Committee
- Governor's Stroke Task Force
- DTCC Paramedic Education Advisory Board
- DEMSOC Mass Casualty Transport Committee
- Atlantic EMS Council
- Priority Medical Dispatch
- School Health Commission
- Risk Watch
- Drowning Prevention Coalition
- NAEMSP Annual Meeting
 - NAEMSP Public Health Committee
 - NAEMSP Standards and Clinical Practice Committee
 - NAESMP Quality Improvement Committee
 - NAEMSP Air Medical Services Ad Hoc Committee
- Christiana Care Emergency Department Research Committee
- Christiana Care Critical Care Committee



State Fire Prevention Commission (SFPC)

Submitted by the Delaware State Fire School



The State Fire Prevention Commission is charged with the protection of life and property from fire for the people of Delaware and to oversee the operation of the Delaware State Fire Marshal's Office and the Delaware State Fire School.



Back Row:

Warren Jones
Marvin Sharp
Douglas S. Murray, Sr.
W. (Bill) Betts, Jr.

Front Row:

Bob Ricker
Dave Roberts
Kenneth H. McMahon

The Statutory responsibilities of the Delaware Fire Prevention Commission are to promulgate, amend, and repeal regulations for the safeguarding of life and property from hazards of fire and explosion. The Statutory responsibilities of the State Fire Prevention Commission may be found in Title 16, Chapter 66 & 67 of the Code and are summarized as follows but not limited to:

- The Commission consists of seven persons appointed by the Governor.
- They also have the power to promulgate, amend and repeal regulations for the safeguarding of life and property from hazards of fire and explosion.
- Prior to promulgation, they shall hold at least one public hearing on each regulation, amendment or repealer and shall have the power to summon witnesses, documents and administer oaths for the purpose of giving testimony.
- They shall appoint the State Fire Marshal and State Fire School Director.
- The Commission shall have power to authorize new fire companies or substations; resolve boundary and other disputes; prohibit cessation of necessary fire protection services.
- The Commission is empowered to enforce its orders in the Court of Chancery.

Delaware State Fire School



Delaware Code, Title 16, Chapter 66, §6613 – 6618, mandates the Delaware State Fire School to: (1) provide firefighters with needful professional instruction and training at a minimum cost to them and their employers; (2) develop new methods and practices of firefighting; (3) provide facilities for testing firefighting equipment; (4) disseminate the information relative to fires, techniques of firefighting, and other related subjects to all interested agencies and individuals throughout the state; and (5) undertake any project and engage in any activity which, in the opinion of the State Fire Prevention Commission, will serve to improve public safety.

In order to comply with the statutory mandate, the State Fire School established a goal “to provide fire, rescue, emergency care, and related training to members of the fire community, industry, agencies, institutions, and the general public requiring specific programs and any program which will serve to benefit the safety of the public”. The primary activities center around operations at the State Fire Training Center west of Dover. Other activities are consolidated into in-service fire department training courses, training programs for state agencies, institutions and industrial facilities, public education programs, and emergency care and first aid courses.

The agency objectives established to achieve that goal are:

- To provide firefighters with needful professional instruction and training.
- To provide basic life support personnel with needful professional instruction and training.
- To provide rescue personnel with needful professional instruction and training.
- To certify basic life support personnel as State of Delaware Emergency Medical Technicians.
- To inspect and license ambulances that operates within the State of Delaware.
- To provide agency, institutional and industrial personnel and the general public with needful professional instruction and training.
- To disseminate information relative to fires, techniques of firefighting, and other related subjects to all agencies and individuals throughout the state.
- To develop new methods and practices of firefighting.
- To provide facilities for testing of firefighting equipment.

On July 1, 1972, the State Fire Prevention Commission was also given the mandate under Delaware Code, Title 16, and Chapter 67, §6708 – 6714, to regulate the ambulance service in Delaware. The Commission assigned to the State Fire School the added duties of inspecting and licensing ambulances and the training and certifying of ambulance personnel.

Ambulance Service Regulations – This regulation is to ensure a consistent and coordinated high quality level of ambulance service throughout the state focusing on timeliness, quality of care and coordination of efforts. This regulation addresses BLS Ambulance Service and Non-

Emergency Ambulance Service. It clearly defines the administrative and operational requirements for such entities.

The State Fire Prevention Commission has adopted, as a regulation, a Statewide Quality Assurance and Improvement Committee. This committee, under the direction of the State Medical Director, is responsible for assuring and improving the quality of Basic Life Support within the EMS systems that serve the State of Delaware. By conducting medical incident reviews and evaluating patient care statistics, the committee is able to provide constructive feedback on quality improvement to all EMS professionals within the State of Delaware.

The State Fire Prevention Commission also adopted a BLS regulation that detailed EMS Educational Program Administrative Standards and Guidelines. This regulation describes the standards and guidelines for emergency medical services (EMS) educational agencies that present programs for the First Responders/ EMT-Bs in the State of Delaware. The regulation was developed to insure that all students receive the highest quality of training approved by the State Fire Prevention Commission and the Office of Emergency Medical Services.

Office of the Fire Marshal



In 1953, at the urging of the Volunteer Fire Service, the State Legislature created the Office of the State Fire Marshal and directed that regulations, reflecting nationally recognized standards, be promulgated to enhance life safety and property conservation for the citizens of Delaware.

The State Fire Marshal's Office functions as an independent state agency under the State Fire Prevention Commission, which promulgates the State Fire Prevention Regulations, as enforced by the State Fire Marshal's Office. As the law enforcement agency charged by state statute with the suppression and investigation of arson, the State Fire Marshal's Office provides the lead role in fire and arson investigations, statewide. The agency is charged with assisting the Chief of any fire department on request, inspections and code enforcement in health care facilities, educational occupancies, public assembly, public accommodations, flammable and combustible liquids, flammable gases, explosives and fire works.

The State Fire Marshal's Office is responsible for the comprehensive compliance with the state statute for the installation of smoke detection devices in all residential occupancies, which will greatly reduce the likelihood of injuries and deaths from fire.

The objective of the State Fire Marshal's Office is to provide a fire safe environment for the citizens of Delaware and all who visit and carries out its mandate for Public Service, through the work of three divisions, Administration, Field Operations & Technical Services.

Number of Fire Fatalities	07
Number of Burn Injuries Investigated by SFMO	55

2009 Delaware State Fire Marshal's Office Data

Medical Direction

Medical direction involves granting authority and accepting responsibility for the care provided by EMS, and includes participation in all aspects of EMS to ensure maintenance of accepted standards of medical practice. Quality medical direction is an essential process to provide optimal care for EMS patients. It helps to ensure the appropriate delivery of population-based medical care to those with perceived urgent needs. (National Highway Traffic Safety Administration)



*Dean Dobbert, MD
Kent County Med. Director*

*Ross Megargel, DO
State EMS Medical Director*

*Patrick Matthews, MD
BLS Medical Director*

*Timothy Shiuh, MD
Associate New Castle County Med. Director*

*Rob Rosenbaum, MD
New Castle County Med. Director*

*Kevin Bristowe, MD
Sussex County Med. Director*

*Not Shown:
Paul Cowan, DO
Associate Sussex County Med. Director*

Delaware's Emergency Medical Services (EMS) provides medical care to victims of illness and trauma through a coordinated medical system of EMS responders. EMS responders include 911 dispatchers, first responders, basic life support (BLS) providers, paramedics or advanced life support (ALS) providers, and on-line emergency physicians who oversee individual patient care. All of these EMS responders are medically coordinated through protocols and training directed and overseen by Board Certified Emergency Physicians who practice in Delaware.

Delaware employs emergency physicians to devote part of their professional efforts to the EMS system. They include the state EMS medical director, the state BLS EMS medical director, three county EMS medical directors, and three county associate EMS medical directors. The BLS and county medical directors are accountable to the state EMS medical director. The medical directors meet regularly to review statewide treatment protocols, quality issues, new medical techniques and equipment in a continuing effort to provide the citizens of Delaware with the most up-to-date and appropriate EMS care possible. All EMS medical directors are required to take the National Association of Emergency Medical Services Physicians' (NAEMSP) Medical Directors course.

Delaware's EMS Medical Directors assure quality care to patients through interactions with other physicians, hospitals, citizen groups, and organizations such as, the American Heart

Association and the Medical Society of Delaware. They review aggregate patient care data from the providers to determine the effectiveness of the treatment protocols. Retrospective medical oversight occurs through interactions with EMS personnel at hospital emergency departments and subsequent to problem case identification. Certain high risk or intensity cases, such as those involving use of neuromuscular blocking agents for tracheal intubation, are routinely identified for automatic medical direction review.

The EMS Medical Directors often bring diagnostic and therapeutic modalities that they have used successfully in the emergency departments and move them into the prehospital environment. They also monitor the medical literature for new developments that may help patients.

Prospective medical oversight is provided via extensive basic and advanced life support standing orders and protocols. While standing orders and protocols can be promulgated by the State EMS Medical Director at times of urgency, current practice is to involve committees or subcommittees of the State Fire Prevention Commission (SFPC) or Board of Medical Practice (BOMP). The Chair of the SFPC and the Director of Public Health are part of the approval process of standing orders and protocols.

Challenges:

EMT-B's work hours: Based on verbal reports there are concerns that some EMT-Bs maybe working several 24 hour shifts, one after another. There are paid EMT-Bs who work for several different companies, scheduling themselves several days in a row, counting on sleeping at night. These schedules may lead to a number of potential problems and liabilities such as increased medical errors, increased aggressiveness, and motor vehicle crashes.

EMS Safety: EMS safety issues are major concerns on national, state, and local levels. Delaware EMS has had a series of ambulance crashes and provider injuries over the years. Until recently, Delaware did not have any "known" serious injuries or crashes. In fact, ambulance crashes have not been tracked, nor have crashes that resulted from the passage of ambulances running red lights and sirens (RL&S). In 2008, the State of Delaware suffered two severe EMS crashes and a crash scene incident that resulted in one patient death, five (5) serious EMS provider injuries and two EMS providers, who sustained fatal injuries in the line of duty. The Delaware EMS Medical Directors have sought medical solutions to some of the EMS safety issues while our operational and administrative partners seek solutions within their areas of expertise.

EMS Funding: EMS funding is a considerable issue within the state. When the ALS system was developed in our state it was set up that the state would reimburse the county paramedic services 60% of all operational costs. Unfortunately, with the fiscal environment today that number, as of the start of FY10, has dropped to 30%. As a result, the county agencies have had to make some difficult decisions as to reductions of service. Some of those reductions (or proposed reductions) include reduced administrative support staff, reduced QA/QI data analysis, and reduced participation in state EMS planning, QA, protocol development and training.

Systems of Care Development: Delaware is fortunate to have a well developed inclusive Trauma System. The state is nearing implementation of an inclusive Pediatric System. The next initiative

is the development of a Cardiovascular System of Care. Currently, our EMS system operates as if a cardiovascular system of care is already in place. Protocols have been identified for the need to transport to an appropriate facility. Emergency Percutaneous Cardiac Interventions (PCI) or angioplasty capabilities in each county have been identified and are the preferred center for transportation. There are a few major obstacles that have been identified such as currently there is no funding for a system coordinator, need for development/legislative change for protected peer review, need to identify systemic performance measures for QA/QI, and lacks outside, independent verification

Treatment Protocols:

Delaware's EMS system provides care through a series of treatment protocols that allow certain level providers to initiate life saving care en route to the appropriate emergency department. Delaware has several unique protocols that have significantly improved patient care.

Over the last several years, we have had great success in treating prehospital respiratory distress with continuous positive airway pressure (CPAP) use by paramedics. To further improve treatment of these patients, we have initiated a CPAP pilot program for our basic life support (BLS) providers. CPAP has been extremely successful among paramedics in reducing severity of illness, time spent in intensive care units and hospital length of stay, leading to improved patient comfort and lower healthcare cost.

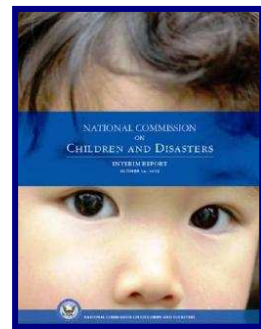
Delaware's paramedics have been performing 12-lead EKGs on patients with chest pain and other signs and symptoms of heart attacks for over ten years. This program has allowed paramedics and emergency physicians to provide high quality care for Delaware patients having heart attacks. Emergency physicians use the paramedic's report of a patient having a heart attack to prepare the emergency department for their arrival. Delaware is fortunate to have five hospitals providing emergent angioplasty, in which cardiologists may be able to "reverse or negate" a heart attack. Christiana Hospital, St. Francis Hospital, Kent General Hospital, Beebe Hospital and recently Nanticoke Hospital, all provide emergent angioplasty service. Now emergency physicians can direct EMS personnel to transport a heart attack patient to the most appropriate hospital that is able to perform emergent angioplasty, hopefully reversing a heart attack, allowing the patient to return to their previous lifestyle.

Cardiac arrest patients are benefiting from the recent protocol addition of hypothermia for patients resuscitated from cardiac arrest. Scientific research has demonstrated improved neurological functioning of patients who have suffered cardiac arrest, been resuscitated but who do not immediately wake up with utilizing techniques designed to cool the brain. It appears that the sooner cooling is initiated, the better the patient's outcome may be. New Castle County EMS, followed by Sussex County EMS has initiated this lifestyle preserving technique with reports of better than previously expected outcomes. Delaware's emergency departments and intensive care units have also initiated new sophisticated cooling protocols to enhance patient outcomes. Along with hypothermia, Delaware EMS now preferentially transport survivors of cardiac arrest to a hospital that can provide immediate cardiac interventions in a cardiac catheterization lab to attempt to open up the clogged heart arteries that caused the cardiac arrest.

Endotracheal intubation consists of the passage of an artificial airway through the mouth or nose, into the trachea in order to assist a patient to breathe. While this may sound like a relatively simple concept, in practice, this procedure is actually a very complex task requiring advanced patient assessment and management skills. It has been found over the years that there is a group of critical ill and injured patients that would benefit from intubation, but are difficult to intubate. Those difficult to intubate patients are alive (as opposed to in cardiac arrest), but resist intubation efforts. Generally, these patients have suffered head trauma or an intracranial hemorrhage and present in coma with clenched teeth. To further improve intubation success rates, EMS has instituted a “Drug Facilitated Intubation Protocol (DFI) which utilizes medications and techniques proven effective in emergency departments across the country. Over the last several years Sussex, New Castle and Kent County emergency medical systems (EMS) have implemented prehospital DFI programs with great success. Given the high level of training of Delaware paramedics, current quality assurance programs within the Delaware’s EMS system, strong physician involvement and advanced equipment, prehospital critical care for Delaware patients with prolonged prehospital transport times are benefiting from statewide implementation of the “Drug Facilitated Intubation Program” in Delaware.

Committees, Publications and Research:

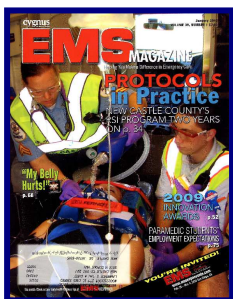
The National Commission on Children and Disasters released their interim report to the President and Congress in October 2009. The independent Presidential Commission is charged with conducting a comprehensive study to examine and assess the needs of children as they relate to preparation for, response to, and recovery from all hazards, including major disasters and emergencies. In 2008, NCCo EMS Chief Lawrence Tan received a congressional appointment to the ten member Bipartisan Commission, which will issue a final report in October 2010.



NCCo EMS Chief Lawrence Tan participated in a panel discussion with the International Association of EMS Chiefs (IAEMSC) at EMS Today 2009 in Baltimore, MD in March 2009.

NCCo Chief Lawrence Tan presented a "Legal Currents in EMS" presentation at the First Annual International Association of EMS Chiefs (IAEMSC) EMS Leadership Summit in Washington, DC in September 2009.

Delaware State Fire School, Senior Instructor William Walton is serving as a principal member of the newly formed NFPA 1917 committee designated as “Standards for Automotive Ambulance”. This committee will establish design and operations standards that will hopefully lead to the construction and operation of safer ground-based ambulances.



New Castle County EMS featured in EMS Magazine. *Protocols in Practice, New Castle County's RSI Program After Two Year*; written by NCC Paramedic Robert Sullivan, NCC Paramedic Brian King, Dr. Robert Rosenbaum, and Dr. Timothy Shih. The article depicts New Castle County

EMS's experience with implementing the Rapid Sequence Intubation (RSI) protocol. *Photo by Cpl. Donald L. Morris, NREMT-P*

2009 ACEP Poster: P. Matthews, W. Nichols, C. Durie, D. McGinnis-Hainsworth, S. Hypes, J. Reed, J. Schofer, R. Megargel, R. "Admission Rates for Walk-In Patients Differ Between Suburban and Urban Emergency Departments While Admission Rates for Emergency Medical Services Arrivals Show No Significant Difference" [Abstract] 246. Annals of Emergency Medicine (Supplement)

2009 NAEMSP Poster: P. Matthews, C. Durie, S. Hypes, D. McGinnis-Hainsworth, J. Reed III, R. Megargel, "Walk-in patients presenting to an urban emergency department are admitted to the hospital less frequently than walk-in patients at a suburban emergency department" [Abstract]. Prehospital Emergency Care, 13(1) 147.

Pre Hospital Provider Experience and the Impact on Intraosseous (IO) Success Rates. Jaime L. Massucci MD, Ketaki Abhyankar MD, Laura S. Murphy BS, Diane McGinnis-Hainsworth, Debra Resurreccion RN, James Reed PhD, Ross E. Megargel DO. Prehospital Emergency Care, Vol 14., Number 51, January 2010. pp 33.

Pre Hospital Continuous Positive Airway Pressure (CPAP) and the Impact on Hospital Intubation Rates. Jaime L. Massucci MD, Ketaki Abhyankar MD, Laura S. Murphy BS, Diane McGinnis-Hainsworth, Debra Resurreccion RN, James Reed PhD, Ross E. Megargel DO., Prehospital Emergency Care, Vol 14., Number 51, January 2010. pp 48.

Gender Disparities In The Time From Paramedic Arrival To Identifying ST Segment Elevation Myocardial Infarction. Marguax Snider, Debra Resurreccion RN, Diane McGinnis-Hainsworth, James Reed PhD, Ross E. Megargel DO; Prehospital Emergency Care, Vol 14., Number 51, January 2010. pp 27.

System Evaluation



27 Decade of Achievement



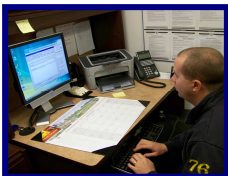
30 EMS Memorial Bike Ride



32 Continuum of Care



33 EMS System Evaluation



34 EMS Patient Care Report



36 Clinical Performance



41 Response Time Performance



45 EMS System Cost

Page Left Blank Intentionally

Decade of Achievement

“Delaware is a State of many “firsts”. In 1787, Delaware became the first state to ratify the U.S. Constitution. The first scheduled steam railroad operated in 1831. The first flying of the Stars and Stripes flag occurred in 1777 at the Battle of Cooch’s Bridge. In 1939, nylon was first produced at the duPont plant in Seaford. Collectively these accomplishments are emblematic of Delaware’s willingness to lead, innovate, turn vision into reality, and on occasion to take a chance.

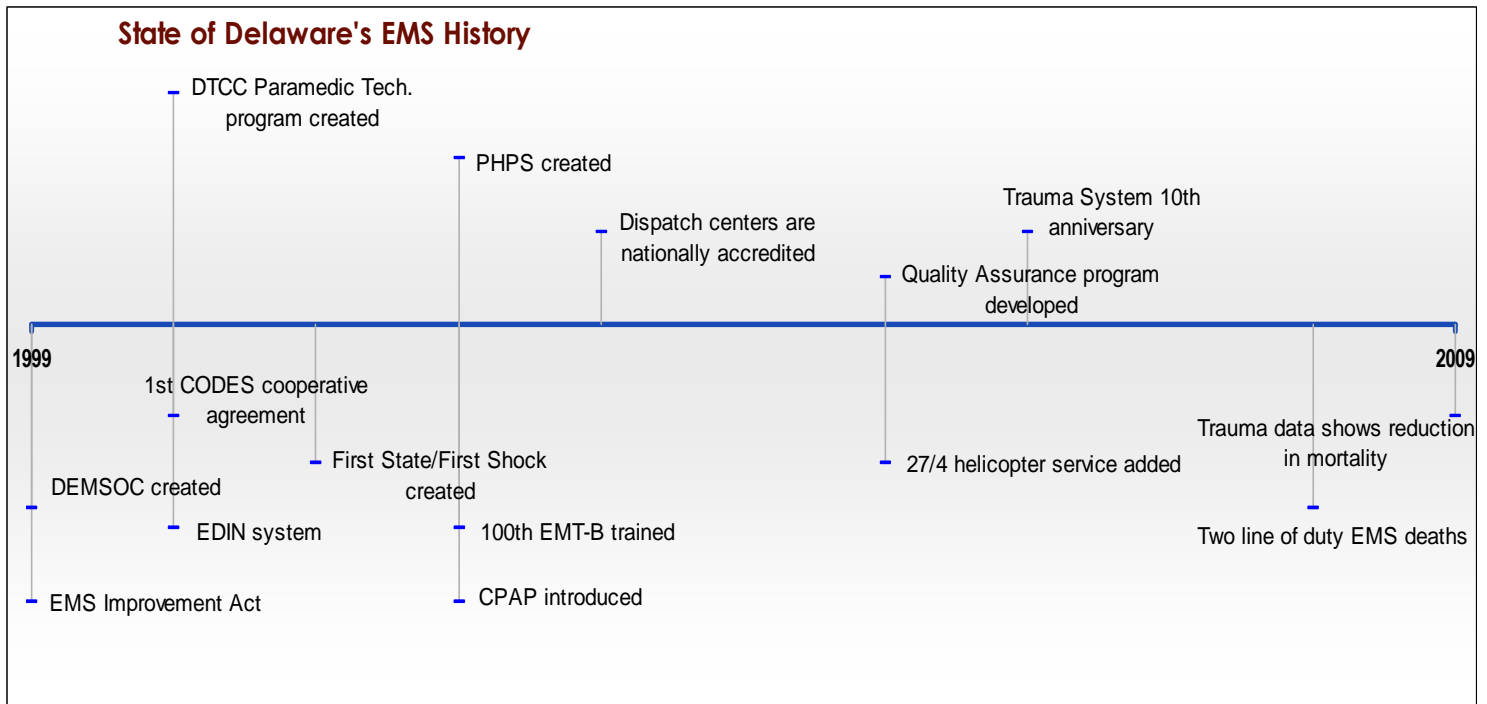
Delaware’s EMS system is a reflection of that same spirit. Our state has been an innovator in building its Emergency Data Information Network (EDIN) system which was an early, successful model for statewide EMS incident reporting. In the absence of significant state or federal funding, Delaware found a way to bring people together for the establishment of an inclusive statewide trauma system that is among the first to document sustained progress in reducing mortality.

In much of Delaware EMS, innovation is synonymous with quality. Delaware boasts statewide paramedic coverage, strong medical oversight of EMS, a well developed system of EMS education, widespread use of national standards, voluntary accreditation of several provider agencies and many other hallmarks of excellence.

Like every other strong EMS system, there are still opportunities for improvement. The Delaware trauma system provides a good blueprint for how other time-sensitive critical care diseases might best be managed. The history of building and using EDIN provides many lessons for how a new EMS information system can better serve the multitude of stakeholders. The Delaware EMS community will be well served by carefully analyzing current operations as plans for the future are created.

Building and maintaining excellence is not done without a significant commitment of resources. The need for strengthening the level and security of financial support for the EMS system is paramount to Delaware EMS success. Delaware EMS has strong data to suggest that it is providing good value on its investment. The steady decline in trauma deaths over the past ten years is but one example of how even modest support for a system of care has resulted in a measurable number of lives saved and a corresponding savings in healthcare costs.

The events of 9/11 gave emergency responders throughout the nation new reasons to look critically at preparedness for the unthinkable. Delaware sits in geographic proximity to multiple metropolitan areas, a significant coastline, a high capacity interstate highway, rail lines, and multiple commercial facilities. These exposures put a heavy burden on a small state with limited resources”. (NHTSA 5-year Delaware review)



This edition of the DEMSOC Annual Report highlights the great progress we have made in developing our EMS system over the past decade. Since its inception, DEMSOC has witnessed many great successes. Here are a few of them:

Integration of Health Services:

- The role of EMS in public health has expanded over the past decade. EMS leadership is regularly consulted for the development of vital public health plans and operations to deal with communicable disease, emergency transportation of sick and injured patients and more.
- Emphasis placed on the EMS provider as a healthcare professional, and an integral part of Delaware's healthcare system.
- The role of EMS continues to evolve to meet the ever expanding needs of the population including those individuals that require specialized medical care.

Human Resources:

- EMS agencies work closely with Delaware Technical and Community College and other educational institutions to produce viable candidates for vacant EMS positions.
- EMS agencies have enhanced their focus on recruitment and retention.
- Delaware added requirement for all EMT-Bs to become nationally registered after initial training.
- Most EMS agencies now have paid staff with benefits.
- Delaware EMS agencies provide a well developed system for critical incident stress management.

Medical Direction and Clinical Care:

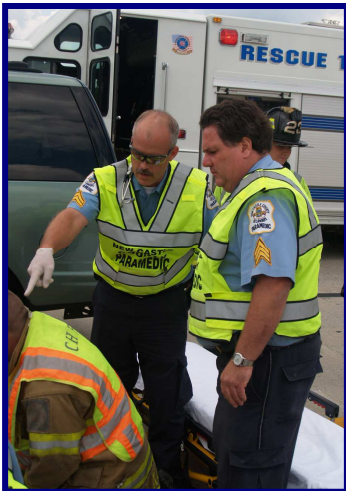
- Delaware expanded the number of medical directors to eight and increased physician involvement in EMS quality assurance.
- Delaware specific EMS research is generated annually and often published in major EMS journals, as well as presented at national conferences and events.
- All paramedic units are equipped with 12-lead EKG equipment.
- All ambulances are equipped with Automatic External Defibrillators (AEDs).
- All paramedic units are equipped with CPAP.
- All ambulances are equipped with standardized pediatric equipment based on Emergency Medical Services for Children (EMSC) recommendations.

Education Systems:

- Nationally accredited Paramedic Technology Program created at Delaware Technical and Community College.
- Statewide educational standards adopted for continuing education and recertification of EMT-Bs and Paramedics.
- EMS educational forum developed to run concurrent with DVFA Annual Conference.

Communication Systems:

- EMS transitioned to statewide 800 MHz system.
- All communication centers use statewide dispatch protocols and have become nationally accredited.
- EMS dispatch now connected to universal clock.



As Delaware's EMS system matures, the opportunities to improve EMS care and refine the state's EMS service will abound. Growth and enhancement of the EMS system is exponential in nature. The more we achieve, the more doors are opened to achieve even greater things. In 2010, a five year NHTSA reassessment will occur, and DEMSOC will use the reassessment to develop an EMS plan to address the areas identified. Using this process DEMSOC is able to maintain its leadership role in assuring that Delawareans receive the finest EMS care available.

EMS Memorial Bike Ride

Delaware EMS actively participated in the 2009 EMS Memorial Bike Ride. During 2009, the State lost two EMS providers—Stephanie Calloway, a Sussex County paramedic and Michelle Smith, an EMT-B with Delaware City Fire Company.



The following is a quote about the experience of Doug Martin (JEMS.com Exclusive) who participated on the ride through Delaware.



"May 18: Day Three. My alarm is ringing and I've only been asleep for five minutes or so. Or so it seems. One generally doesn't have a problem falling asleep after a hard day of riding; however some mornings come faster than others. It's 5 a.m. and this is one of those mornings."

It's dry this morning, but chilly as we board buses to the Tinnecum Fire station where the bikes are stored. Most of the group is half awake, milling about the station getting fruit and bagels, filling water bottles and pumping tires. Once on the road, the wind and activity start warming up our tired minds and sore bodies.



Today we will travel to Delaware to honor two of the State's fallen. Our first stop is in New Castle at the Wilmington Manor station to honor Michelle Newton-Smith, who was killed by a reckless driver while attending a patient involved in a motorcycle accident. There was a short remembrance ceremony after which the team rode by the accident scene. The scene was marked by emergency



vehicles and I'm sure I'm not the only rider who could feel the sense of loss while passing through the area.

We stopped in Odessa, where we were treated to a great lunch that included pizza and fan favorite, PB&J. Refreshed, it was on to Legislative Hall in Dover where a larger ceremony was held to honor Michelle. We were able to meet with Michelle's daughter and other family members before continuing south.

The second remembrance of the day would be in Georgetown, about 50 miles away. One of the impressive things about the trip through Delaware was that at every station and what seemed like almost every intersection, there were emergency vehicles on the side of the road and crews wishing us well. The icing on the cake was entering "The Circle" in Georgetown. We entered the circle to find the inner area full of people cheering and the perimeter ringed by ambulances from over a dozen different services. We've never seen that many people come out to support us in the past, and I want every EMS provider in Delaware to know how much it meant to the team.



But the real reason we were all there wasn't as much to honor us as to honor Stephanie L. Callaway, who was killed while attending a patient when the ambulance she was riding in swerved to miss a deer and struck a tree.

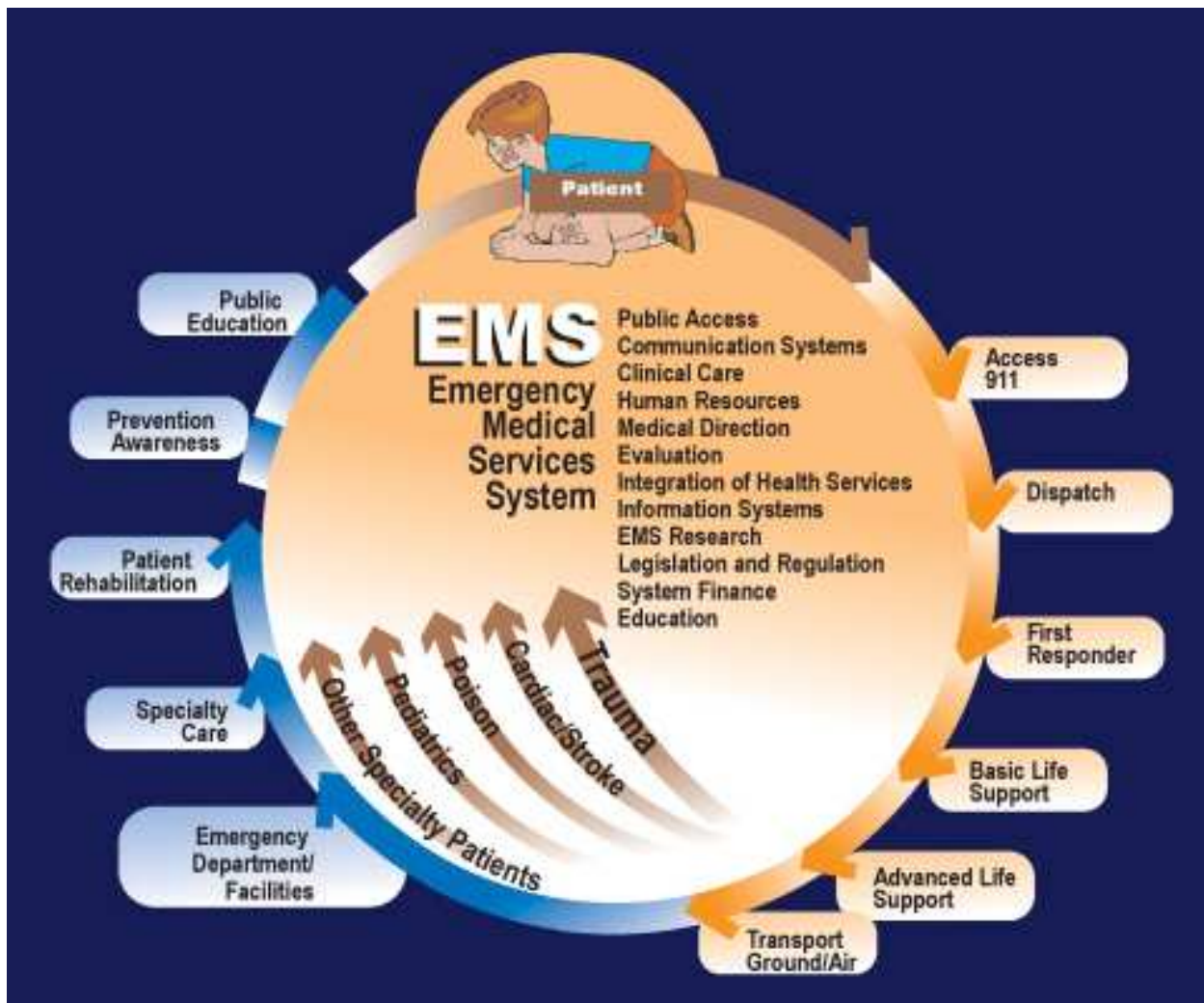
The (long) day ended with burgers and hotdogs cooked over a huge outdoor grill.

All in all, another great day on the road to Roanoke."



Continuum of Care

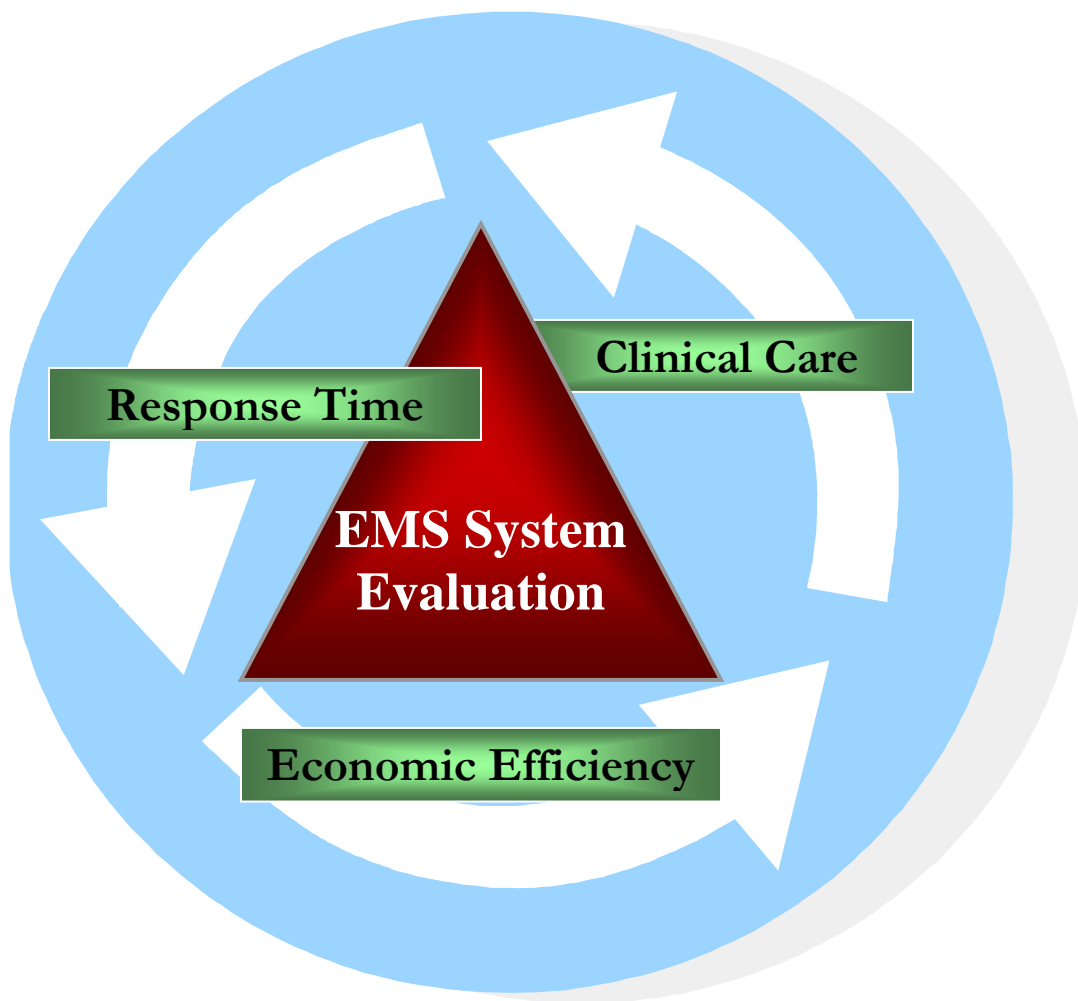
The EMS Continuum of Care is the cyclical process used to describe the delivery and constant improvement of EMS care. An EMS event usually begins with the onset of illness or injury in a patient and a call to the dispatch center through 911. The call is then triaged and dispatched and the appropriate providers arrive on scene to provide care. The patient is then delivered to the hospital, where they receive specialty care (cardiac, trauma, pediatrics) as appropriate and ultimately may enter rehabilitation if needed. The event is then analyzed and lessons learned are shared with providers and the public in the form of awareness campaigns and educational programs in the hope of reducing the potential for further events. Events are analyzed by looking at the 12 main attributes of an EMS system (Public Access, communications, clinical care, etc.) so that all aspects of the EMS system benefit from the lessons learned during a given event. Each modification or improvement to one aspect of the EMS system has an impact on the rest of the system.



System Evaluation

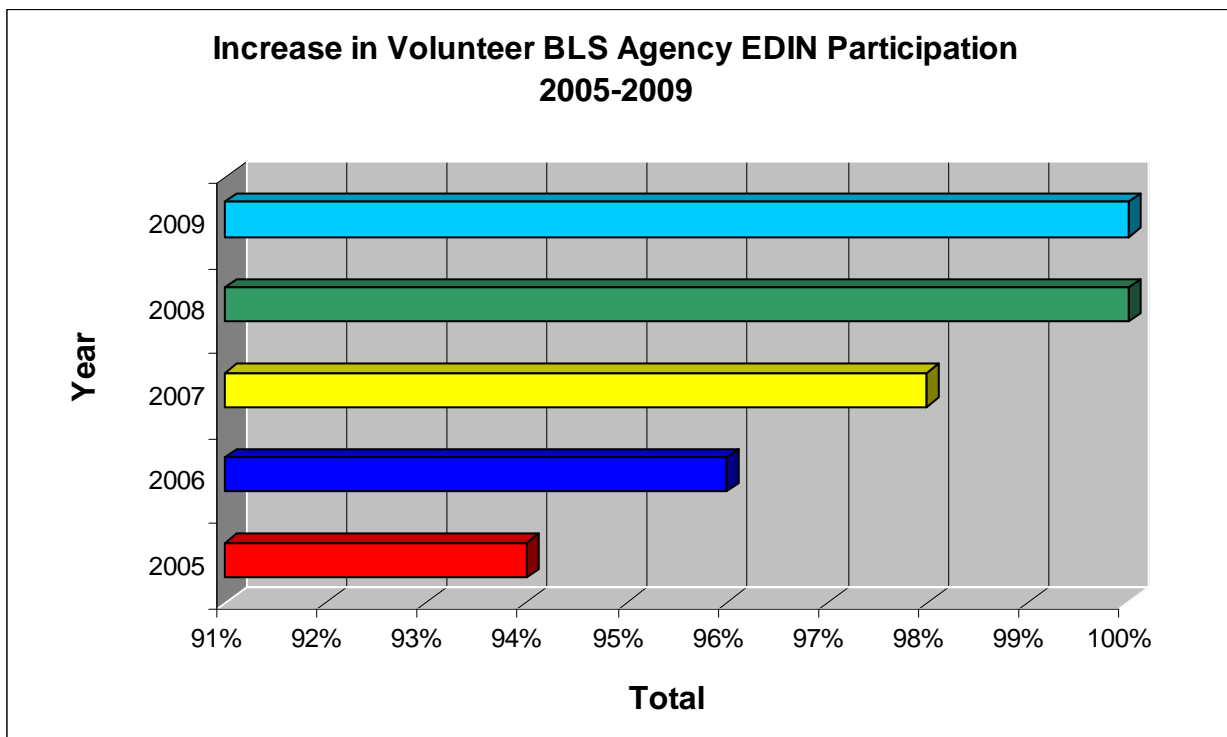
Evaluation is the essential process of assessing the quality and effects of EMS, so that strategies for continuous improvement can be designed and implemented. (National Highway Traffic Safety Administration)

The National Association of Emergency Medical Services Physicians (NAEMSP) has identified three related variables for measuring EMS system performance; clinical performance, response time reliability and economic efficiency. These variables are interdependent for overall system success. Focusing the majority of resources on any one variable is done at the expense of performance potential in the other variables. For example, extreme cost cutting measures will have a detrimental impact on clinical performance and response time reliability. Also, if a system places all of its efforts on response time performance there will be a significant increase in costs as well as a decrease in clinical performance.



Prehospital Patient Care Report

In Delaware, data from the electronic EMS Data Information Network (EDIN) is largely used to evaluate the EMS system. EDIN collects EMS report data electronically on a real-time basis and provides administrators with a resource management and research tool. The EDIN system collects, at minimum, over 130 data points covering the demographic assessment and treatment phases of an EMS incident. The EDIN system has been online since January 1, 2000. Since its inception, over one million records have been entered into the system. Currently, all of the Advanced Life Support agencies in Delaware are using the system on a full-time basis. Of the 58 volunteer Basic Life Support agencies, almost all are using the system on either a full time or partial basis. This allows DEMSOC a continued review of operational and clinical data for the ALS and BLS providers.

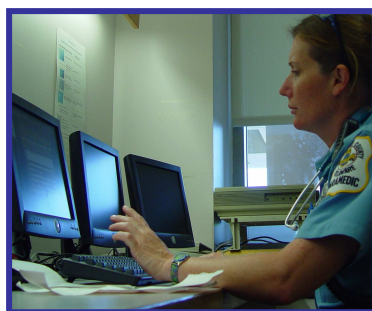
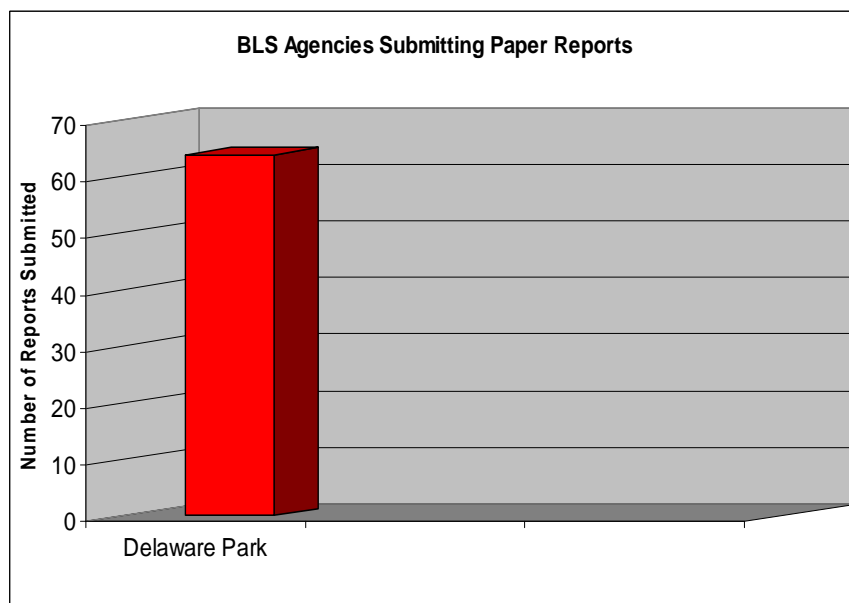
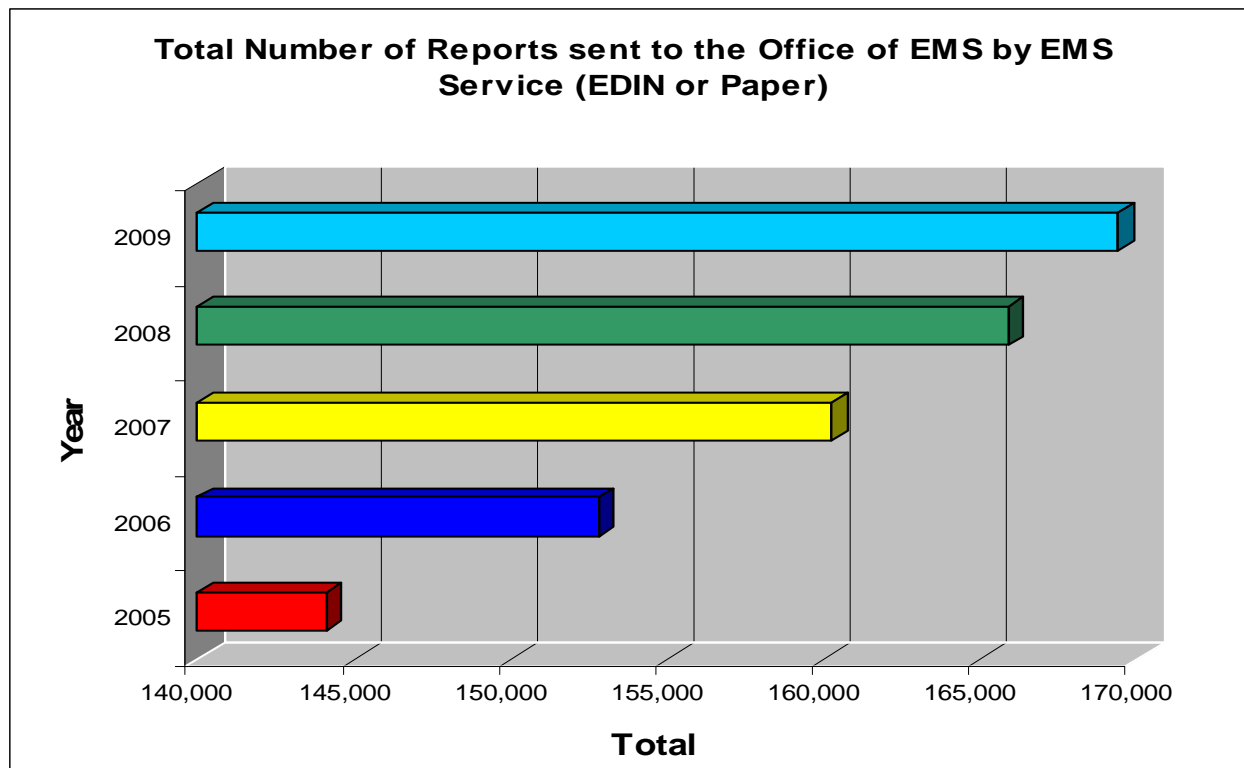


UPDATE ON EDIN SYSTEM:

The OEMS has begun project development on a new data collection system. The new system, the Delaware Information Management for Emergency Services (DIMES), will be in a .Net format to provide increased functionality and scalability.

DIMES will have an open scalable architecture and support standards, which are key to streamlined processing and data exchange. DIMES will further provide a secure method of collecting pre-hospital data, extracting existing data, and exporting or sharing data for strategic planning and process improvement initiatives. By upgrading the technology used and by utilizing a web based program DIMES will provide higher quality data collection.

Once developed, other useful applications can be created to work with DIMES, like a Palm® or Windows CE® version. Finally, Delaware is looking forward to integration into the National EMS Information System. The ability to share and benchmark data with other states will be vital for continued growth and improvement of EMS care in the years to come.



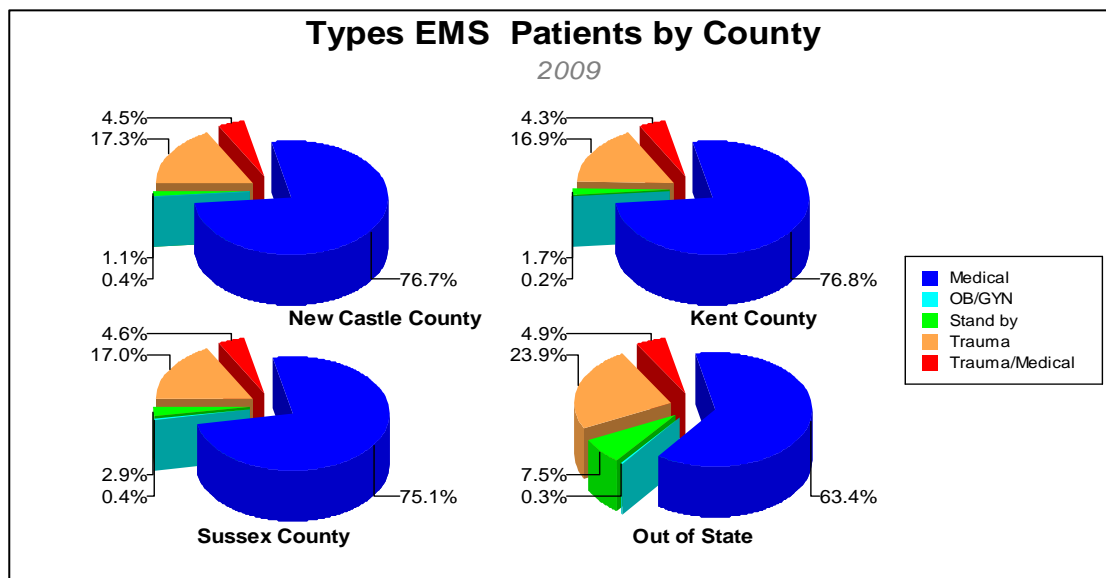
Although improvements have been made to EDIN there are still some BLS agencies that continue to use paper reporting.

Clinical Performance

EMS was originally conceived to respond to accidental death, injury and cardiac conditions outside the hospital. However, EMS has become much more complex over time due to the rapid growth of health care technology. Several influential areas such as, trauma care, cardiology, resuscitation science and military medicine allow EMS to continue to cross the boundaries of numerous medical disciplines, including health care, medical transportation, public health and domestic preparedness.

EMS provides care to those with perceived emergency needs and, when indicated, provides transportation to, from, and between health care facilities. Mobility and immediate availability to the entire population distinguish EMS from other components of the health care system (National Highway Traffic Safety Administration).

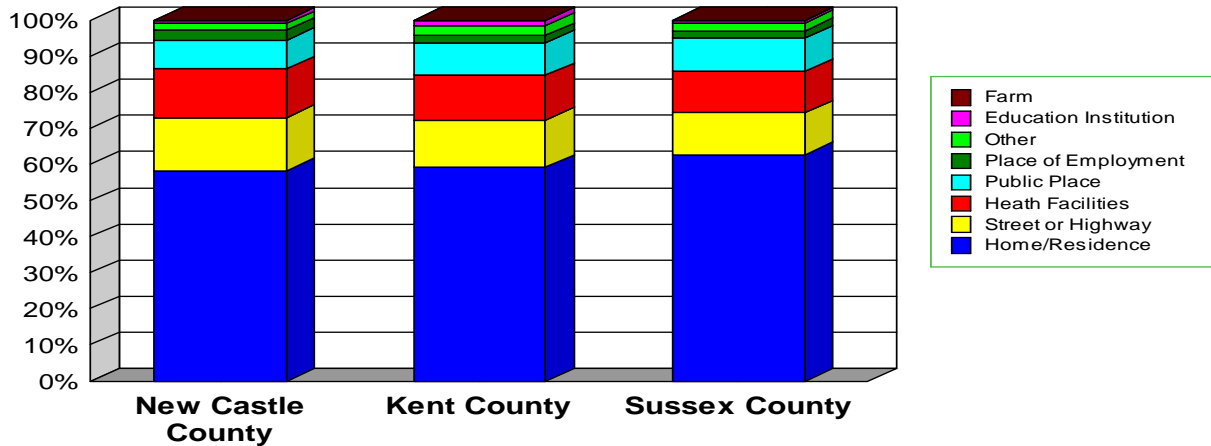
All data used for this section and throughout the report were, unless noted otherwise, extrapolated from the EMS Data Information Network (EDIN). Please note for this report, Advanced Life Support (ALS) and BLS data are reported separately. While reading this report please do not combine the ALS and BLS data. Doing so would lead to inaccurate totals.



Types of patients:

- Medical patients are those individuals who have a condition that requires the attention of a medically trained individual such as chest pain, heart attacks, respiratory problems, altered mental status, seizures, strokes and infectious disease.
- OB/GYN refers to pregnancy and female related medical conditions.
- Trauma patients are those who suffer an injury caused by a transfer of energy from some external source to the human body such as motor vehicle crashes, gunshot wounds, stabbings, industrial accidents and falls.
- Trauma/Medical patients often include patients who had a medical condition that caused them to suffer a trauma such as a faint related to a heart problem that caused the patient to fall, suffering a serious head injury.

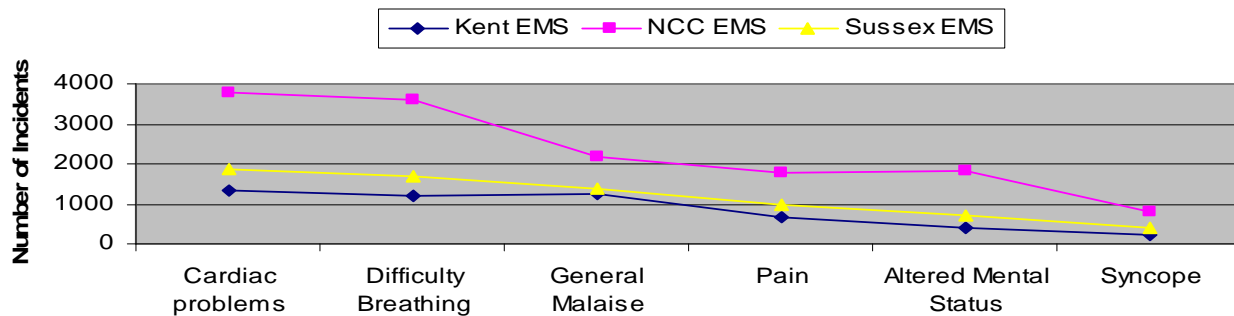
EMS Usage by Location Type-2009



EMS usage by location type:

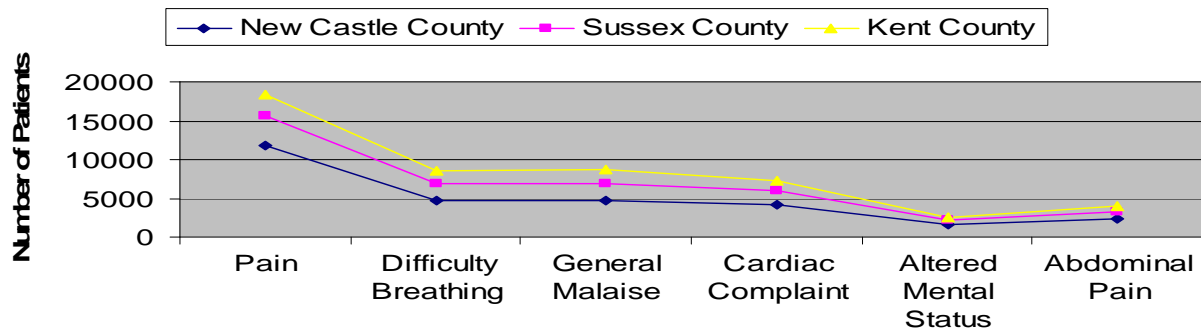
These graphs show the location of EMS calls which is helpful in designing dispatch protocols, developing operational systems to assist EMS providers in the rapid location of patients and to develop programs to reach critically ill and injured patients as quickly as possible with life saving treatments of which the Automatic Defibrillator program is an example.

Most Common Patient Presentation, ALS 2009

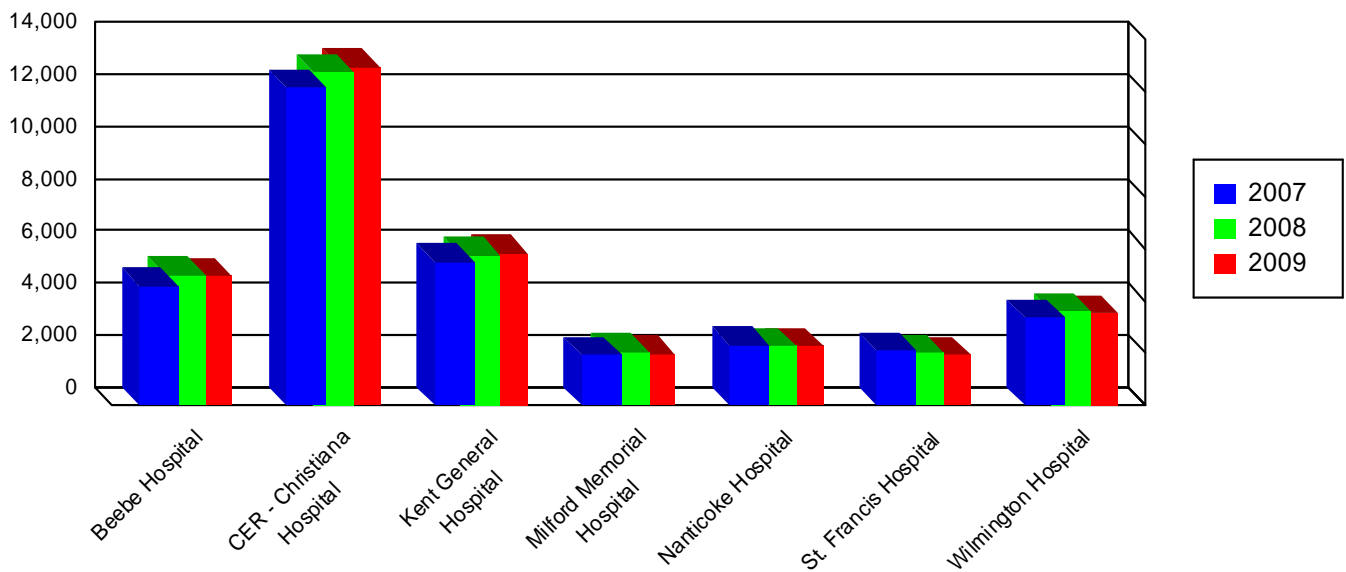


Primary Impression is the EMS provider's evaluation of the patient based on: signs, symptoms, patient's chief complaint and other factors. These graphs do not take into account the type of patient (medical, trauma). The primary impression of other is defined in the patient narrative and not able to query.

Most Common Patient Presentation by Primary Impression, BLS 2009

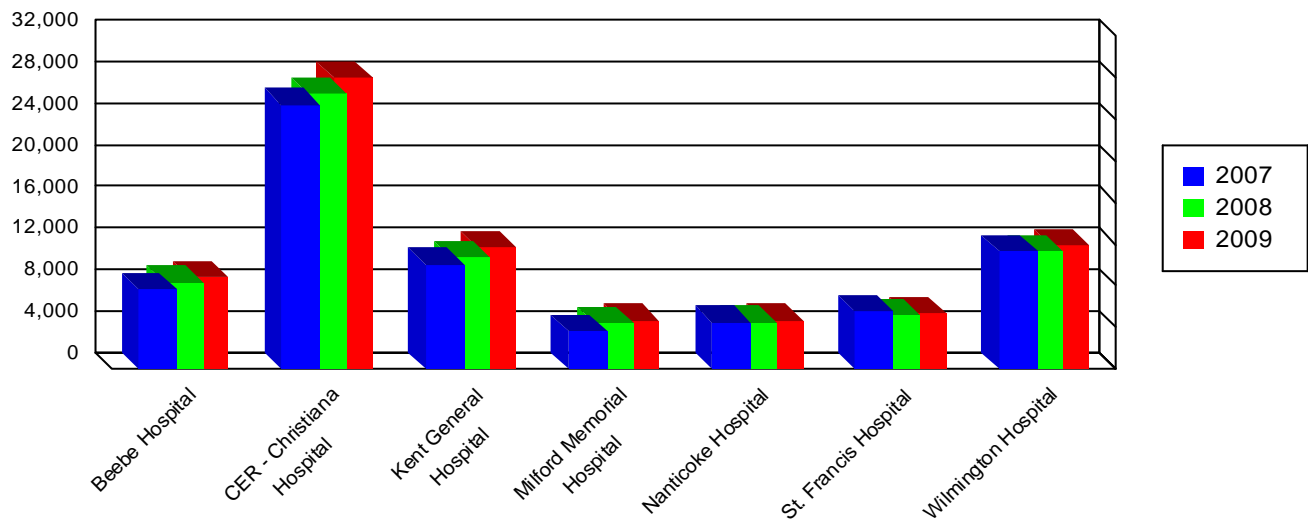


ALS Receiving Hospital Comparisons 2007-2009



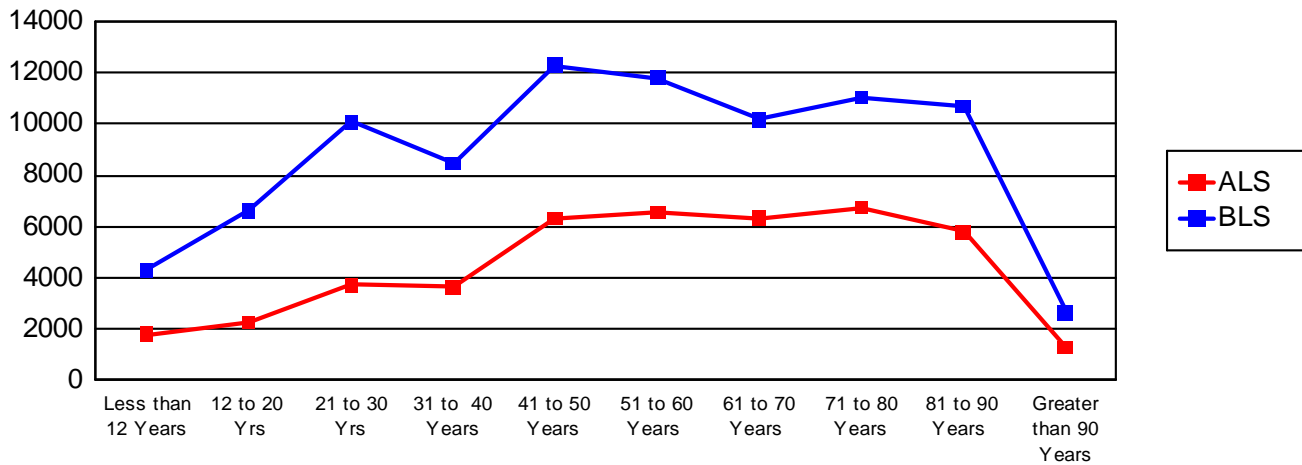
Note: Both ALS and BLS charts are based on the total number of patients transported by the specific EMS service. BLS responds to more patient runs and therefore transports more patients to the hospital. This is noted on the right hand side of each chart contained on this page.

BLS Receiving Hospital Comparisons 2007-2009



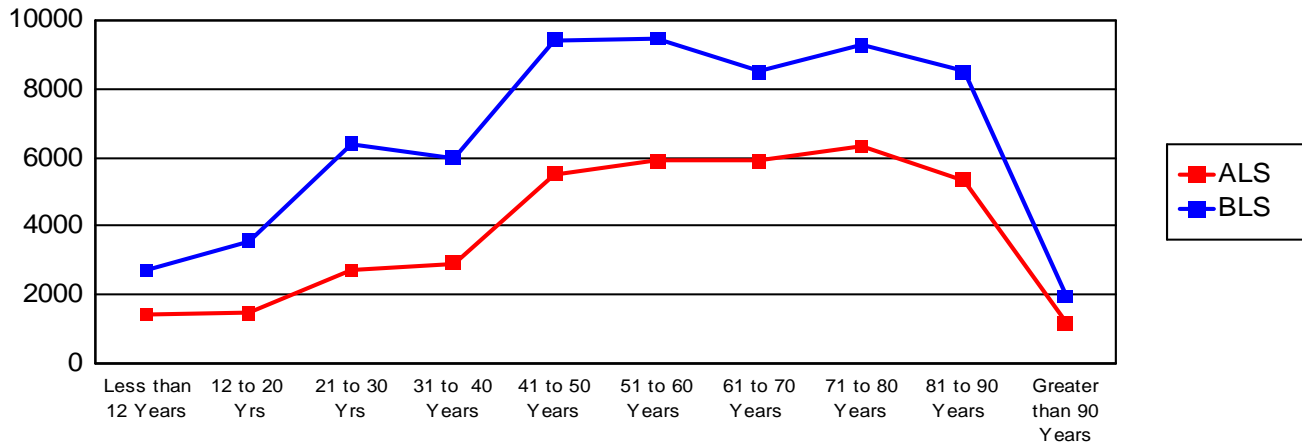
ALS and BLS Patient Age Comparison 2009

All Patients



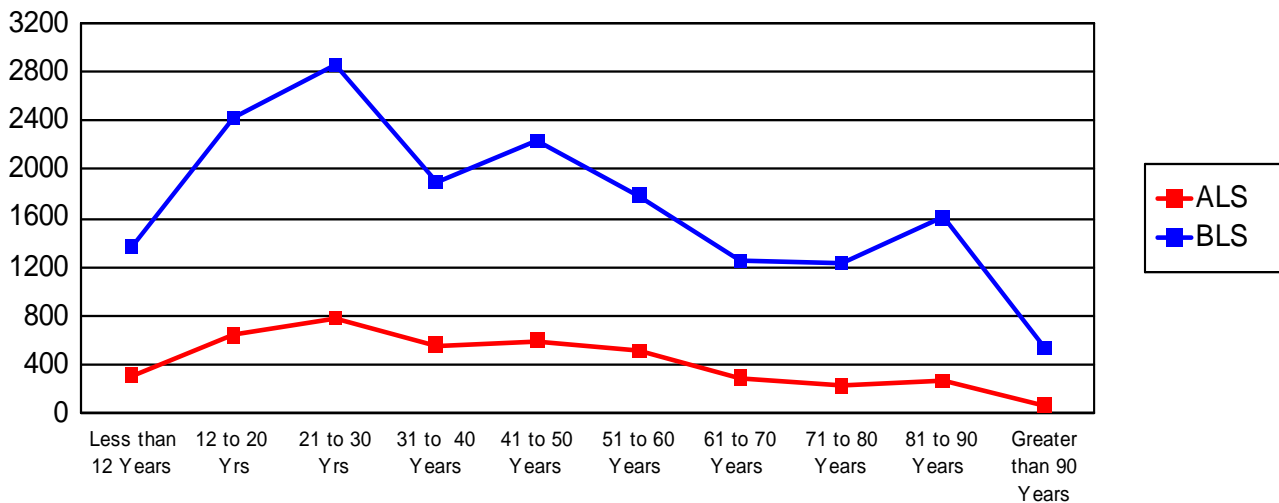
ALS and BLS Patient Age Comparison 2009

Medical Patients

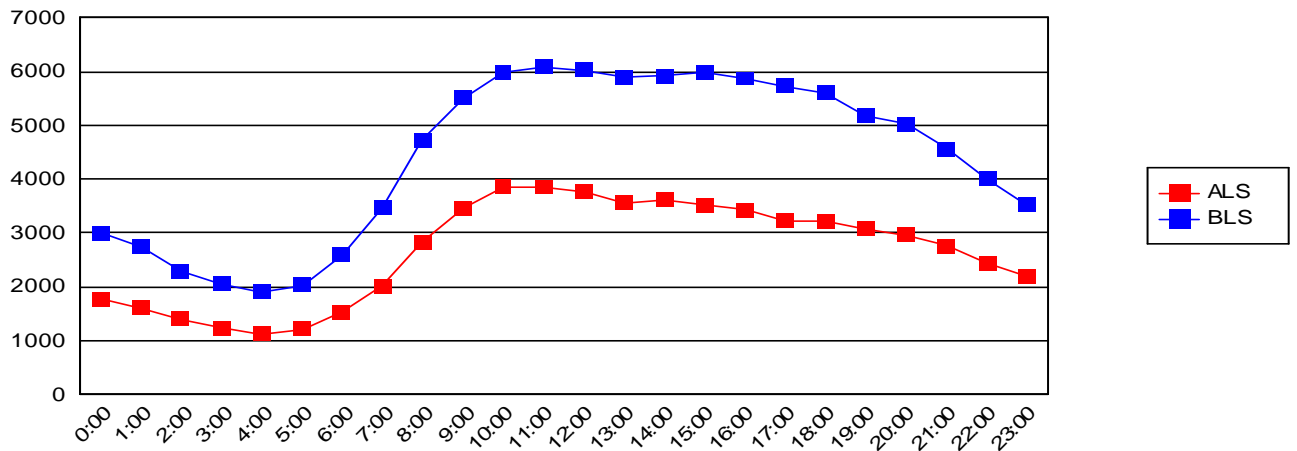


ALS and BLS Patient Age Comparison 2009

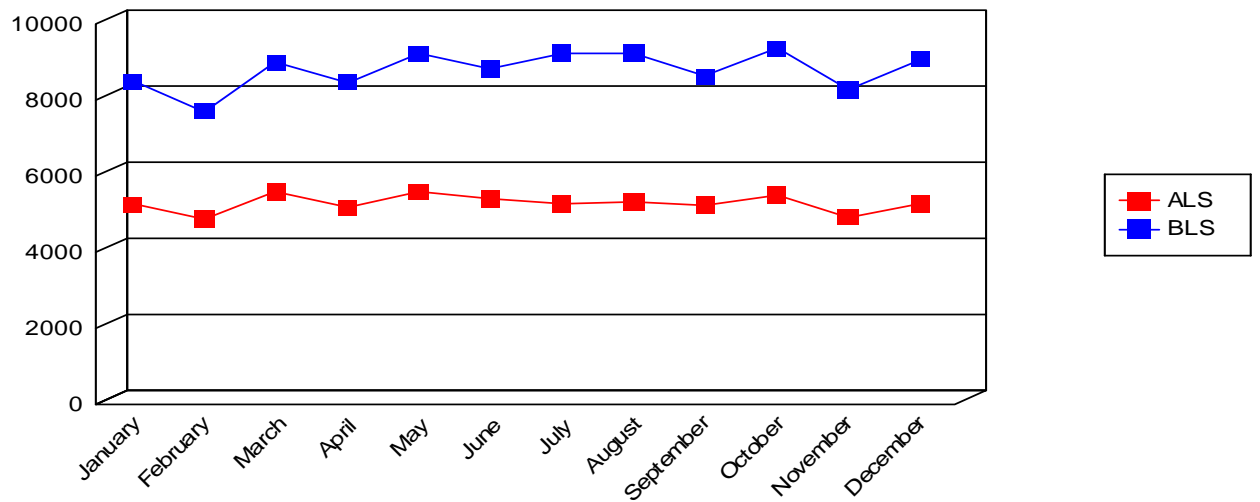
Trauma Patients



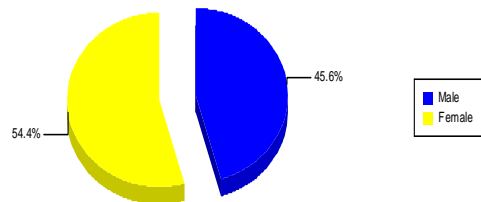
Time of Day When EMS Incidents Occur-2009



ALS/BLS Incidents by Month-2009



Gender of EMS Patients



Response Time Performance

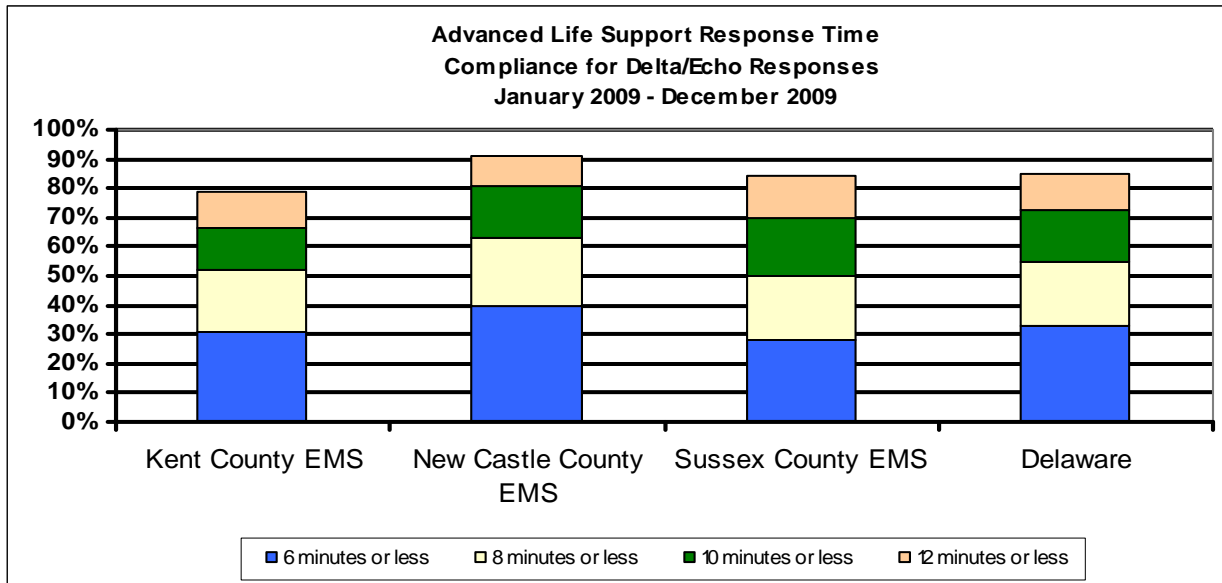
The Delaware EMS system measures response time performance in fractiles. Fractile response refers to how the response time is measured against an established performance goal. For example, if a response goal is 8 minutes, the fractile response time is a percentage of the responses within that 8 minute goal. A 90% fractile response indicates that 90% of the time the response time was within 8 minutes or less. Numerous factors affect response time performance including geography, baseline resource availability, call volume and deployment strategies.

The response time goals for the Delaware EMS system adopted by the EMS Improvement Committee are based on cardiac arrest survival research. These response goals are nationally recognized and cited by both NFPA (1710) and the American Ambulance Association guidelines. It is recognized that these are ideal goals. Using response time performance as the primary measure of EMS system performance has come under scrutiny.

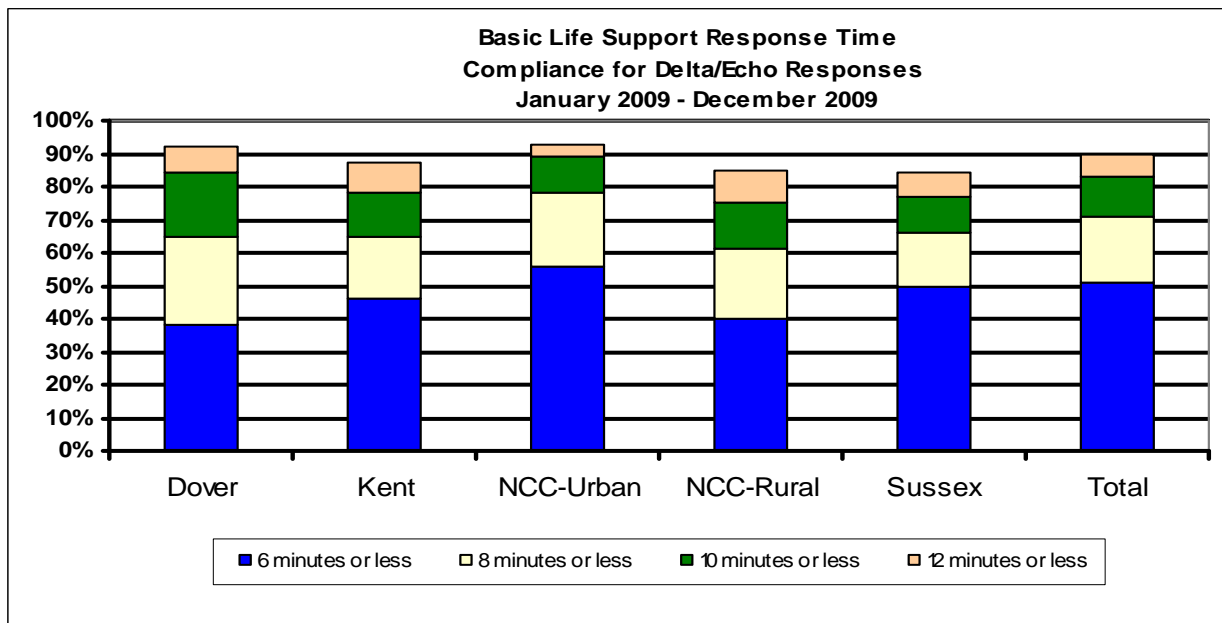
The performance goals for Delaware's EMS System recognize that not all emergencies are life threatening and do not require maximum resource response. The Emergency Medical Dispatch system is a systematic approach (protocol) that assists dispatchers in identifying which 911 calls require maximum response, and identifies calls as:

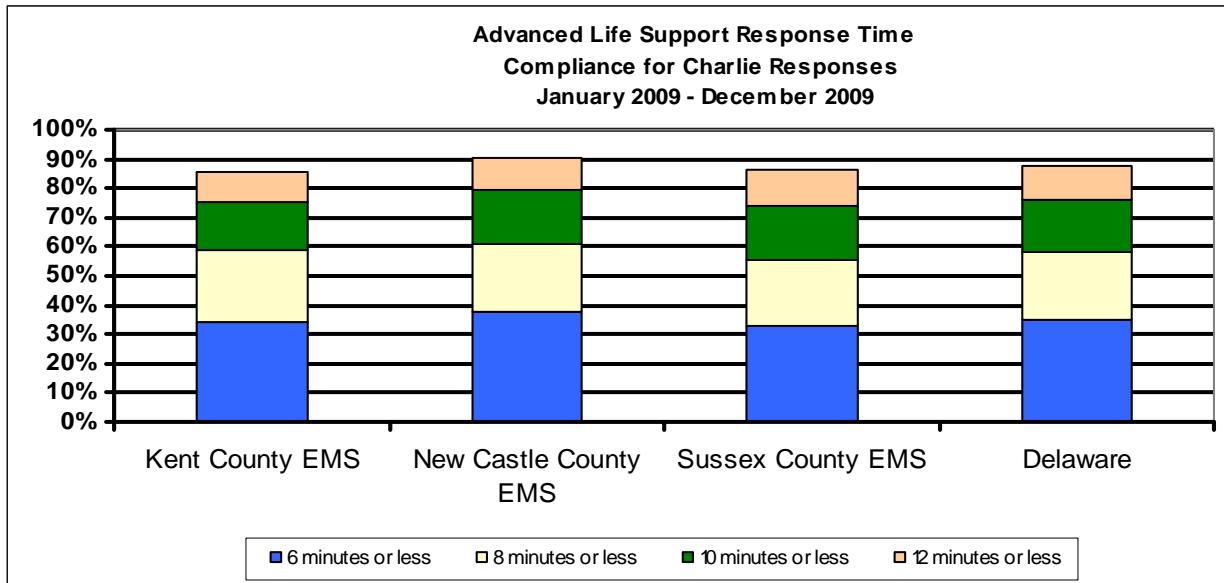
- **Alpha** – Requires a BLS response. Example is a minor burn.
- **Bravo**- Requires a BLS response. Example is with unknown patient status.
- **Charlie**- Requires ALS and BLS response. Example is burns with difficulty breathing.
- **Delta**- Requires ALS and BLS response. Example is an unconscious burn victim.
- **Echo**- Response type not addressed in the legislated response time goals, but it requires a maximum response to include available first responders. Example would be a cardiac arrest.
- **Omega**- Response type not addressed in the legislated response time goals. An example of an Omega response is a dispatcher, while remaining online with the caller, connects to a poison control center for instructions.



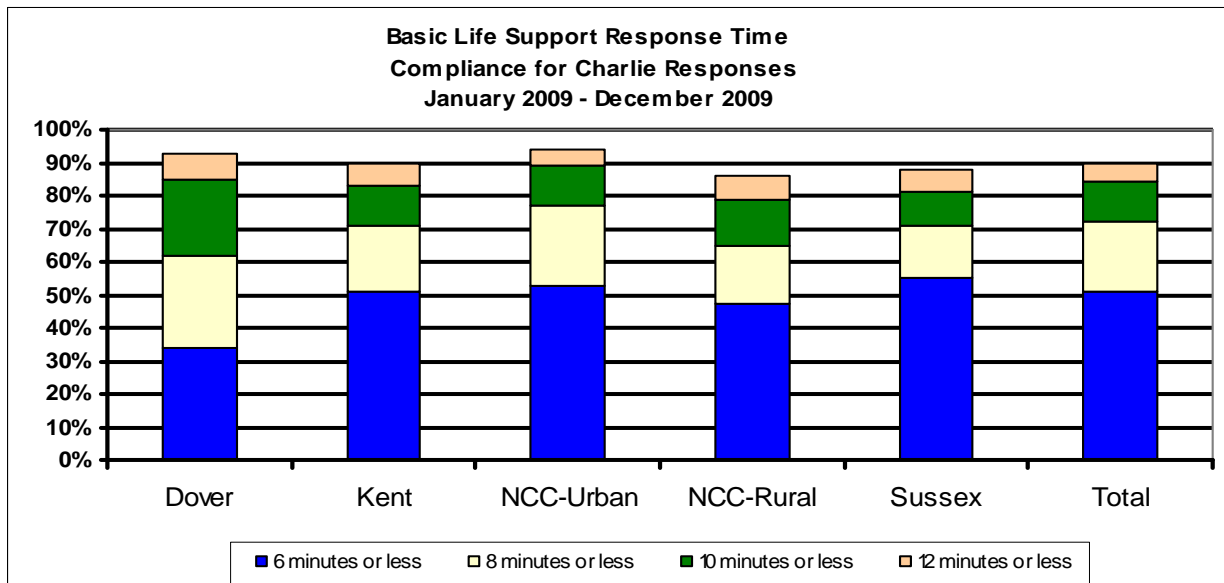


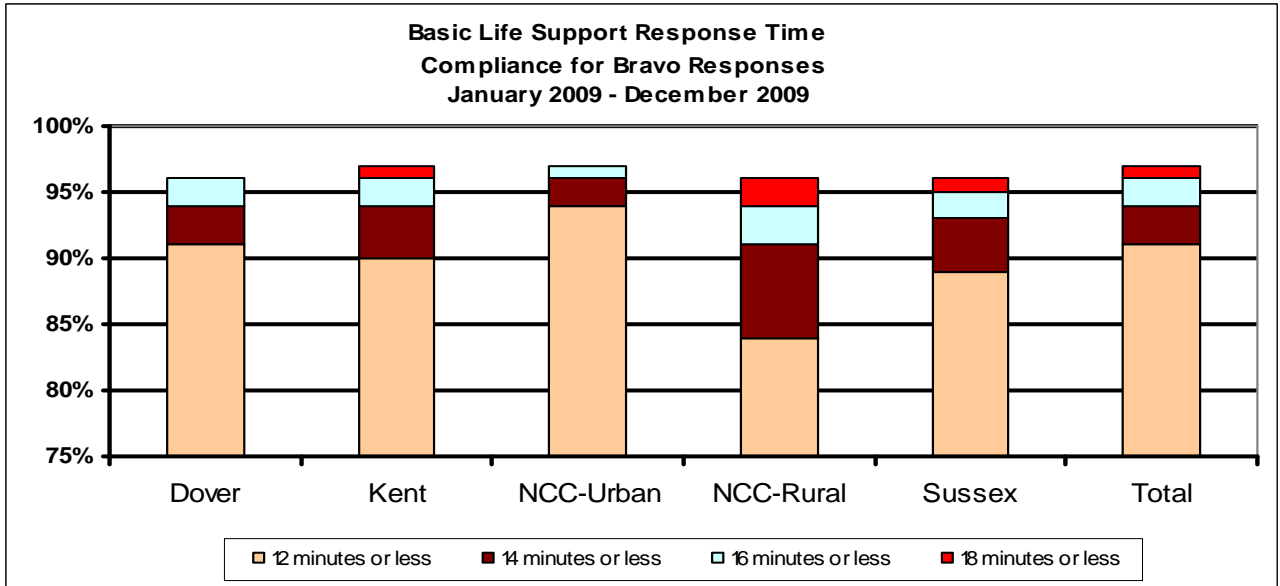
Goal: Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Delta calls on at least 90% of the time. BLS ambulance unit on scene within 10 minutes of the receipt of Delta calls on at least 90% of the times in urban areas and 70% of the times in rural areas.



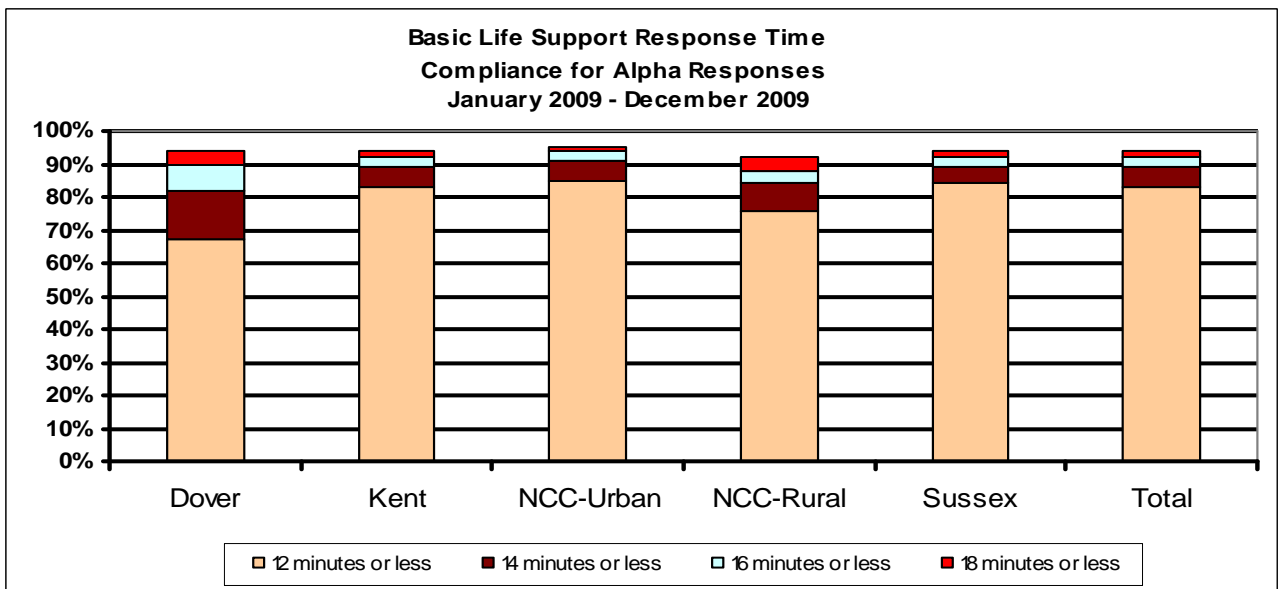


Goal: Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Charlie calls on at least 90% of the time. BLS ambulance unit on scene within 12 minutes of the receipt of Charlie calls on at least 90% of the times in urban areas and 70% of the times in rural areas.





Goal: BLS ambulance unit on scene within 12 minutes of the receipt of Bravo calls on at least 90% of the times in urban areas and 70% of the times in rural areas.



Goal: BLS ambulance unit on scene within 18 minutes of the receipt of Alpha calls on at least 90% of the times in urban areas and 70% of the times in rural areas.

Estimate of EMS System Cost

One important factor in evaluating the efficiency of an EMS system is measured in terms of cost. Delaware continues to refine the process to accurately reflect total EMS system costs. The Basic Life Support (BLS) Financial form was developed and distributed to all agencies starting in 2002. Additionally, all 911 centers, involving EMS dispatch, have submitted their costs to run their centers during 2009.

House Bill 332 outlines the requirement for EMS agencies to report cost. *“All components of the EMS system should report revenues and expenses so that the system can be continually evaluated for its cost effectiveness. Members of the General Assembly, the Governor, the public and other policy makers should know the costs of Delaware’s EMS system in order to measure its effectiveness”.*

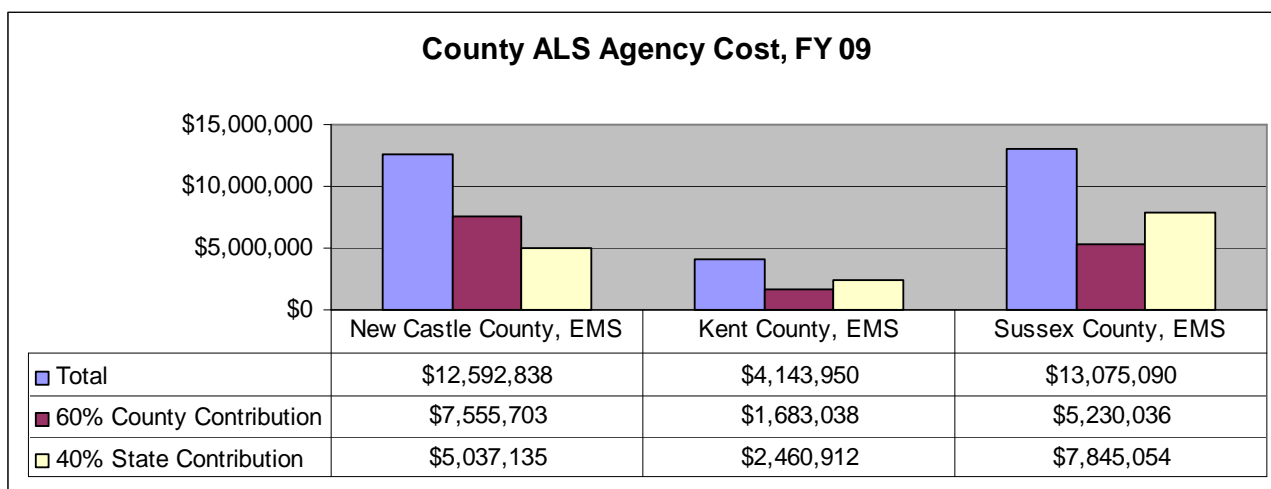
The population figures below for 2009 were obtained from the **2009 Delaware Population Projections Summary Table**. The County Cost Per Capita was obtained by calculating the total population for 2009 by the expended budget for 2009 for each agency. The cost per square mile was obtained by calculating the total geographical size by the expended budget for 2009 for each agency.

Advanced Life Support (ALS) Program Cost

Area	Population (2009)	County Cost Per Capita*	Geographic Size	Cost Per Square Mile
Kent County	157,430	\$26.32	594 square miles	\$6,976
New Castle County	532,083	\$23.67	438 square miles	\$28,751
Sussex County	192,019**	\$68.09**	950 square miles	\$13,762
Delaware	881,532	\$33.82	1,982 square miles	\$15,041

*Cost per Capita is unavailable for the BLS agencies.

**Please also note that the County Cost Per Capita calculation does not include the visiting population to the state, including commuters in New Castle, racing fans in Kent, and beach visitors in Sussex.



*70% County Contribution, 30% State Contribution starts in FY10

Basic Life Support (BLS) Program Cost

Basic Life Support (BLS) agencies are requested to send “*The State of Delaware Basic Life Support Annual Financial Report*” to the Delaware Volunteer Firefighter’s Association (DVFA), Delaware State Fire Prevention Commission, and the Delaware Office of EMS. This request to report cost associated with operating a BLS unit is outlined in House Bill 332. The BLS agencies have up to 60 days after the end of their fiscal year to send their reports. Fire/Ambulance Companies throughout the state, report using different fiscal calendars. In 2009, only 34 out of the 57 BLS companies sent the required financial report to the State by the time this report was printed. Accurate estimates of BLS system cost could not be calculated for 2009.

The cart below represents the agencies that submitted BLS financial reports.

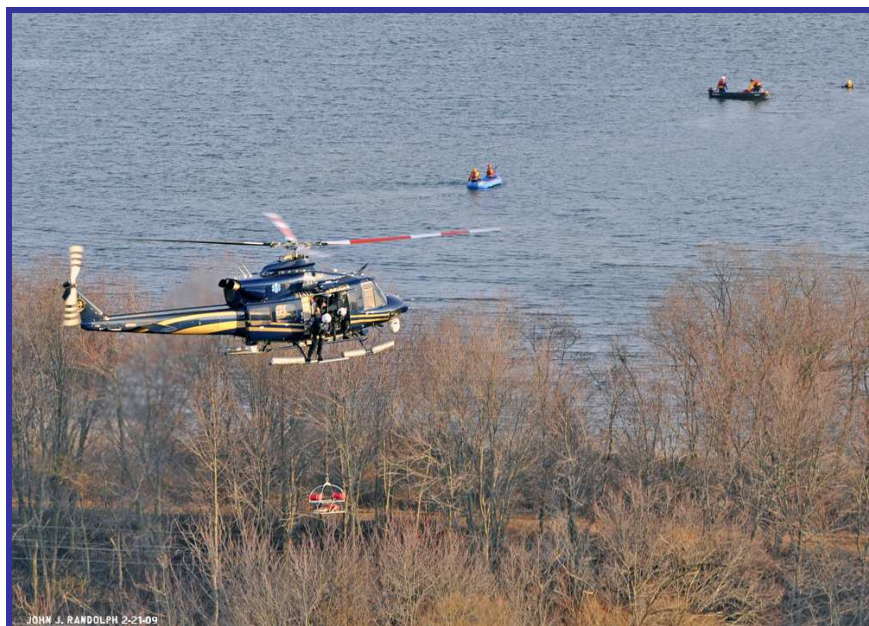
Basic Life Support Agency Name	Financial Report Submitted for 2009
Aetna Hose Hook & Ladder	
Belvedere Fire Co. 30	
Brandywine Hundred Fire Co. 11	YES
Christiana Fire Co. 12	
Claymont Fire Company 13	
Cranston Heights Fire Co. 14	YES
Delaware City Fire Company 15	YES
Elsmere Fire Co. 16	
Five Points Fire Company 17	YES
Goodwill Fire Company	
Hockessin Fire Co. 19	YES
Holloway Terrace Fire Co.	YES
MillCreek Fire Company 21	
Minquadale Fire Company 22	
Minquas Fire Co. 23	YES
Odessa Fire Co. 24	YES
Port Penn Vol. Fire Co. 29	
Talleyville Fire Co.	YES
Townsend Fire Co. 26	YES
Volunteer Hose Company	YES
Univ of DE Emer. Care Unit	
Wilmington Fire Department 100	
Wilmington Manor Fire Co.	
Memorial Fire Co. 89	YES
Mid Sussex Rescue Squad Inc.	
Millsboro Fire Co 83	YES
Millville Vol Fire Company 84	
Milton Fire Co. 85	
Rehoboth Beach Vol. Fire Co. 86	YES

Basic Life Support Agency Name	Financial Report Submitted for 2009
Bowers Fire Co. 40	YES
Camden-Wyoming Fire Co. 41	YES
Carlisle Fire Company 42	YES
Cheswold Fire Co. 43	YES
Clayton Fire Co. 6	YES
Felton Community Fire Co. 48	
Frederica Vol. Fire Co. 49	YES
Harrington Fire Co. 50	YES
Hartly Fire Co. 51	
Leipsic Fire Co. 53	
Magnolia Vol. Fire Dept. 55	YES
Marydel Fire Co. 56	YES
Smyrna American Legion 64	
South Bowers Fire Company	
Seaford Vol Fire Co. 87	YES
Selbyville Fire Co. 88	YES
Blades Fire Co.	YES
Bridgeville Fire Company 72	
Dagsboro Fire Co. 73	YES
Delmar Fire Co.	YES
Ellendale Fire Co. 75	
Frankford Fire Co. 76	YES
Georgetown American Legion	YES
Greenwood Fire Co. 78	YES
Gumboro Vol. Fire Co. 79	YES
Laurel Fire Dept. 81	YES
Lewes Fire Dept 82	YES
Roxana Vol. Fire Co. 90	

Aviation and Dispatch Center Cost

DELAWARE STATE POLICE AVIATION PROGRAM COSTS

Total Costs:	\$ 2,212,000.00
Personnel:	\$ 1,500,000.00
Helicopter Maintenance:	\$ 500,000.00
Fuel Costs:	\$ 200,000.00
Medical Supplies:	\$ 12,000.00



DISPATCH CENTER COSTS

The costs listed below include the total cost and selected budget lines only.

New Castle County 911 Center: (Fire/EMS only)

Total Costs:	\$ 3,059,524.00
Personnel:	\$ 2,750,041.00
Equipment:	\$ 301,724.00
Training:	\$ 7,759.00

Kent County 911 Center:

Total Costs:	\$ 1,503,200.00
Personnel:	\$ 1,384,000.00
Equipment:	\$ 110,000.00
Training:	\$ 9,200.00

Wilmington:

(EMS Dispatch is handled by New Castle County 911 center)

Total Costs:	\$ 0.00
---------------------	----------------

Sussex County 911 Center:

Total Costs:	\$ 1,691,047.00
Personnel:	\$ 1,541,757.00
Equipment:	\$ 81,500.00
Training:	\$ 19,000.00

Seaford 911 Center:

Total Costs:	\$ 481,116.00
Personnel:	\$ 459,260.00
Equipment:	\$ 19,856.00
Training:	\$ 2,000.00

Rehoboth 911 Center:

Total Costs:	\$ 461,376.81
Personnel:	\$ 419,093.58
Equipment:	\$ 41,723.23
Training:	\$ 560.00

Page Left Blank Intentionally

Specialty Care



51 Trauma



58 Emergency Medical Service for Children



64 Cardiovascular Care



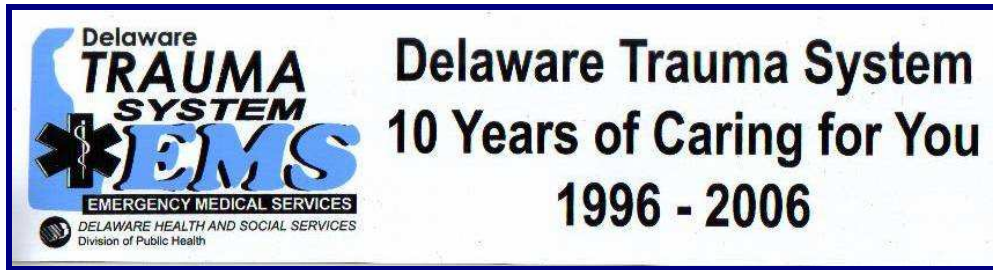
66 Domestic Preparedness



69 Education and Training

Page Left Blank Intentionally

Delaware Statewide Trauma System



Report: *Survival Rates of Seriously Injured Improve*

Governor Jack A. Markell and other state and local officials joined with members of the Delaware Statewide Trauma System on June 5, 2009, to recognize recent data showing a significant improvement in the care provided to those most seriously injured in the state, and a much-improved survival rate. Recent Delaware Trauma System data analysis revealed a decrease in death rates since 1998 in the most severely injured patients transported to Delaware Trauma Centers. In 1998, 45 percent of the most severely injured patients died. Today, that number has decreased to 20 percent. "These statistics demonstrate that the work done by all the agencies of Delaware's Statewide Trauma System over the past 10 years has had excellent results. It clearly shows that the collaboration and coordination among these professionals mean that we are saving more trauma patients every day," said Governor Markell.

The state's Trauma System is comprised of a vast network of professionals who work together to ensure that trauma patients receive the appropriate emergency medical care for their injuries. They include 911 Emergency Communications Centers, Basic and Advanced Life Support providers, fire and police agencies, hospital emergency trauma teams, air medical transport, and in-house trauma center resources such as operating rooms and intensive care units. "The most important aspect of this celebration is that no matter where in the state people are injured, they enter a system of care that follows the same guidelines and standards and makes certain trauma patients are cared for in the facility best equipped to manage their injuries. This remains the primary goal of the Delaware Emergency Medical Services Oversight Council," said Secretary Schiliro.

The success of the statewide Trauma System is the result of a lot of hard work by many people and agencies, led by the Division of Public Health (DPH) Office of Emergency Medical Services (OEMS). OEMS is the lead agency and provides oversight of the Trauma System, from the time a traumatic incident occurs through the full continuum of care. With the guidance of OEMS, Delaware has developed one of the nation's few truly inclusive statewide Trauma Systems, in which every acute care hospital participates in the Trauma System and has met the standards for state designation as a Trauma Center or Trauma System Participating Hospital.

"Many lives have been saved in Delaware due to the cooperation and commitment of the EMS providers, community health professionals, and state agencies that sustain our statewide Trauma System," said Steven Blessing, Director of DPH's Office of Emergency Medical Services.



Above- Trauma survivor Rob Kunzig Jr. thanked members of the statewide Trauma System for saving his life following an industrial accident in Millsboro in April 2008. Mr. Kunzig, who suffered life-threatening injuries, received aid at the scene from emergency medical professionals and was flown to Christiana Hospital by the Delaware State Police Aviation Unit. The Christiana Hospital trauma team, led by Dr. Glen Tinkoff, continued his care. From left are son Rob Kunzig III, Mrs. Mary Kunzig and Mr. Kunzig, Governor Jack A Markell, State Police Superintendent Colonel Thomas MacLeish and Dr. Tinkoff.

HISTORY AND CURRENT STATUS OF THE DELAWARE TRAUMA SYSTEM

June 30, 2009 marked the 13th anniversary of the passage of legislation creating Delaware's Statewide Trauma System. That legislation was the culmination of years of work by the state's hospitals, the Division of Public Health, the Delaware Healthcare Association, and prehospital, fire and police agencies statewide. The passage of this enabling legislation was the first step in systematically improving the care provided to the injured throughout the state. Since this bill was passed, over 54,000 people have been cared for by Delaware's Trauma System.

Unintentional injury is the # 1 killer and disabler of Delawareans ages 1 to 44 years, and the # 5 killer for all age groups combined (Delaware Vital Statistics Annual Report 2006). It includes injuries such as those caused by highway crashes involving motor vehicles, bicycles or pedestrians, by falls, and by farm and industrial mishaps. Intentional injury adds assaults, shootings, and stabbings to the above statistic. Trauma System Registry records show that 5,394 citizens and visitors to Delaware were injured seriously enough to require hospitalization in 2008 and of these, 318 sustained fatal injuries (Delaware Trauma System Registry, 2008). Because trauma so often involves children and young people, it is responsible for the loss of more years of life than any other cause of death, both nationally and in Delaware. It robs our nation of its most precious resource---its youth.

Trauma can occur at any time. It can happen to anyone. Those with critical injuries need to receive definitive care within a short period of time in order to minimize the risk of death and disability. The role of a Trauma System is to organize resources and assure their immediate availability to the injured at all times and in all geographic areas of the system. These resources include 911 Emergency Communications Centers, Basic and Advanced prehospital providers, multidisciplinary trauma teams in hospital emergency departments, and in-hospital resources such as operating rooms and intensive care units. Research has shown that the coordination of these resources, which takes place as a Trauma System develops, can result in dramatic reductions of up to 50%, in preventable deaths due to injury¹.

1. Mann NC, Mullins RJ, MacKenzie EJ, et al. Systematic review of published evidence regarding trauma system effectiveness. *J Trauma*. 1999;47(3 suppl):S25-S33.

Delaware's Trauma System regulations are based on the guidelines of the American College of Surgeons' Committee on Trauma (ACS COT). ACS review teams visit each Level 1, 2, and 3 Trauma Center and report to the Division of Public Health on the facility's compliance with the Trauma Center Standards before a hospital can be designated as a Delaware Trauma Center. Reviews must be successfully completed every three years in order for a hospital to retain its state Trauma Center designation status. Trauma System Participating Hospitals are reviewed every three years by an out-of-state physician consultant and Division of Public Health staff.

Current Trauma Center and Trauma System Participating Hospital designations are:

REGIONAL LEVEL 1 TRAUMA CENTER:

- ***Christiana Hospital, Christiana Care Health Services***
A Regional Resource Trauma Center has the capability of providing leadership and comprehensive, definitive care for every aspect of injury from prevention through rehabilitation.

PEDIATRIC REGIONAL LEVEL 2 TRAUMA CENTER:

- ***Nemours / Alfred I duPont Hospital for Children***
A Pediatric Regional Level 2 Trauma Center has the capability to provide comprehensive pediatric trauma care for the most severely injured children within its geographic area and is expected to assume a leadership role in the care for injured children within its local, regional, and statewide Trauma Systems.

COMMUNITY LEVEL 3 TRAUMA CENTERS:

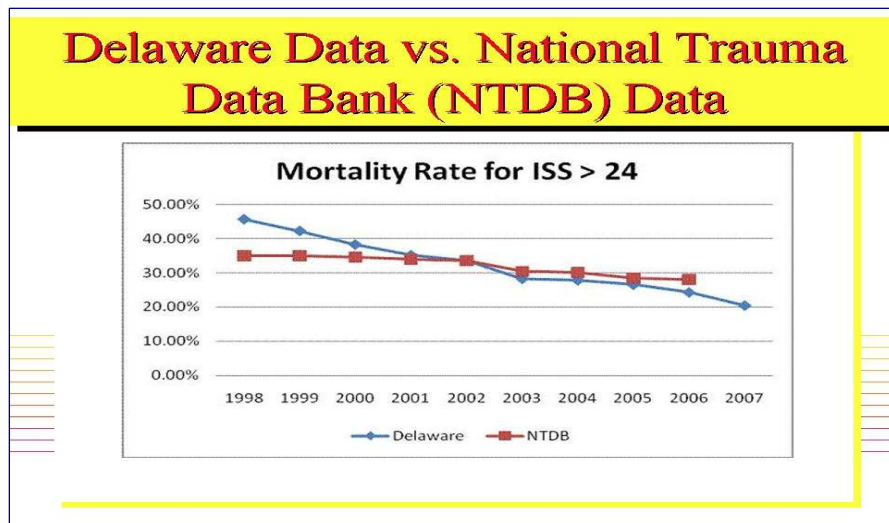
- ***Beebe Medical Center***
- ***Kent General Hospital, Bayhealth Medical Center***
- ***Milford Memorial Hospital, Bayhealth Medical Center***
- ***Nanticoke Memorial Hospital***
- ***Peninsula Regional Medical Center (Salisbury Maryland) via reciprocity***
A Community Trauma Center is capable of providing assessment, resuscitation, stabilization, and triage for all trauma patients, arranging for timely transfer of those patients requiring the additional resources of a Regional Trauma or Specialty Center, and delivering definitive care to those whose needs match the resources of this facility. *Reciprocity* means that Delaware's Division of Public Health has accepted the Trauma Center designation conferred by Maryland.

PARTICIPATING TRAUMA SYSTEM HOSPITALS:

- ***St. Francis Hospital***
- ***Wilmington Hospital, Christiana Care Health Services***
A Participating Hospital is an acute care facility that may receive, usually by private vehicle, moderately or even severely injured trauma patients. Participating Hospitals quickly identify and transfer patients with significant injuries to a Trauma Center after initial resuscitation. When necessary, this facility may provide care to trauma patients with minor injuries. Participating Hospitals contribute data to the Delaware Trauma System Registry and Quality Improvement Program. They do not receive ambulance patients meeting the Prehospital Trauma Triage Scheme criteria.

A DECADE OF ACCOMPLISHMENTS

- Implementation of an inclusive voluntary Trauma System which has remained stable and retained commitment and participation since January 2000.
- As reported in the Journal of Trauma, a Trauma System Registry data analysis showed a significant decrease in the mortality rate between the timeframes of 1995-1999 and 2000-2004 in the two counties that had no system of trauma care in place prior to 2000. The trauma mortality rate decreased from 5.27% to 2.84% in Kent and Sussex Counties between pre- and post- Trauma System implementation timeframes. The mortality rate in New Castle County (location of our Level 1 Trauma Center) did not show a significant rise during these time periods.
- Successful resolution of the 2004 era challenges of neurosurgical care for pediatric patients and pediatric trauma care has occurred with the ACS verification in November 2008 and state designation in January 2009 of the Alfred I duPont Hospital for Children as a Level 2 Pediatric Trauma Center.
- Successful resolution of the 2007 challenges of orthopedic care in our Level 3 Community Trauma Centers has occurred. Two of the four Level 3 Trauma Centers lost their 24/7 orthopedic coverage and functioned as Level 4 Trauma System Participating Hospitals for periods of five and twenty-four months. The commitment of these hospitals for keeping their trauma programs alive and for successfully resolving the issue, as well as of the other Trauma System agencies that adjusted to the changes and kept the System intact for the benefit of our citizens and visitors, is to be commended.
- As reported at the October 2009 American Association for the Surgery of Trauma meeting by Trauma System Medical Advisor Dr. Glen Tinkoff, between 1998 and 2007 the overall mortality rate for trauma patients with Injury Severity Score over 24 decreased from 45.7% to 20.4% in the Delaware Trauma System. Further, when compared to the same population of patients in the National Trauma Data Bank (NTDB), Delaware's improvement was more substantial than that experienced in trauma centers nationwide. The following graph depicts Delaware's decrease in the mortality rate of patients with an Injury Severity Score over 24, compared with the NTDB decrease in the same population of patients.



TRAUMA SYSTEM CHALLENGES

1. Financial support for the Trauma System

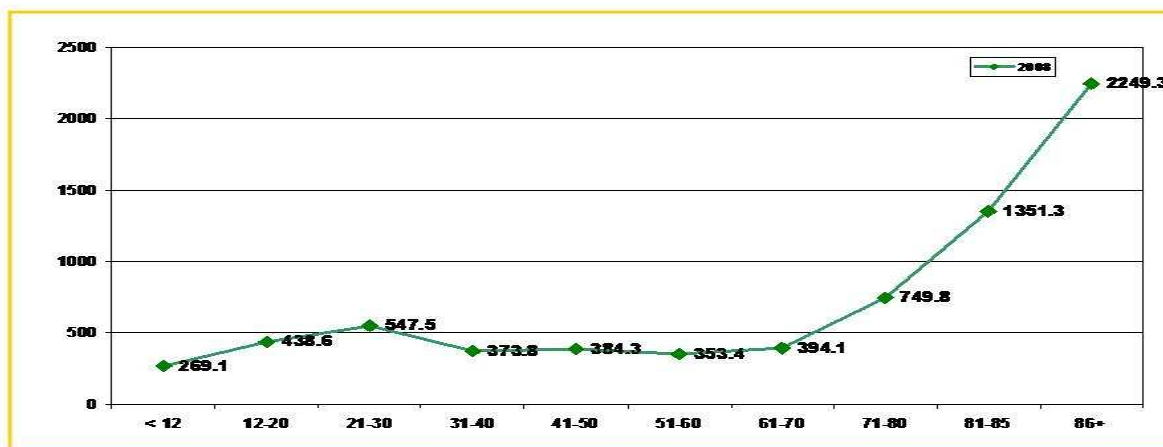
- Funding support for the Trauma System has never been pursued to the legislative level. Legislative initiatives to support the Trauma System overall have been scarce to nonexistent.
- While Delaware hospitals have to date been motivated to “do the right thing for their communities”, they are facing the same financial challenges as Trauma Centers across the country---managed care, lifestyle preferences of physicians that do not include taking trauma calls, malpractice insurance costs, uncompensated care, and expectations of increasing numbers of physicians for payment to participate in trauma programs.
- Some Delaware Trauma Centers are finding a source of reimbursement through billing for trauma activations and substance abuse Screening and Brief Intervention programs.

2. Further development of the Trauma System Quality Program

- Volume indicators are well developed and reported annually.
- Trauma System Registry data supports injury prevention programs with annual updates and revisions as requested or needed.
- Sentinel cases are discussed at the Trauma System Quality Evaluation (QE) Committee’s Educational Forum.
- Some quality filters are routinely monitored:
 - Patients with Glasgow Coma Score less than 15 and Injury Severity Score over 24 who are not transferred to a facility with neurosurgical capabilities
 - Initial Emergency Department length of stay
 - Undertriage (patients meeting triage criteria without a trauma activation)
 - Mortality rate by Injury Severity Score
 - Comparison between patients under and over age 55 with Abbreviated Injury Score over 2 who are treated at Trauma Centers
 - Patients transferred out immediately following surgery in the initial receiving facility.
- Proposed criteria for automatic review by the Trauma Quality Committee are:
 - Double acute care transfers
 - Deaths of patients transferred to a higher level of care
 - Patients transferred directly from OR to OR
 - Surgical airways in the field
 - Patients transferred with blood running
 - Patients that bypass other Trauma Centers and go directly to the Level 1 Trauma Center from the scene
 - Delays in transfer leading to adverse outcome
 - Missed prehospital triage leading to adverse outcome

Delaware's Trauma System Registry

Delaware Trauma System Registry Rate of Injury Per 100,000 Residents by Age Group, 2008*

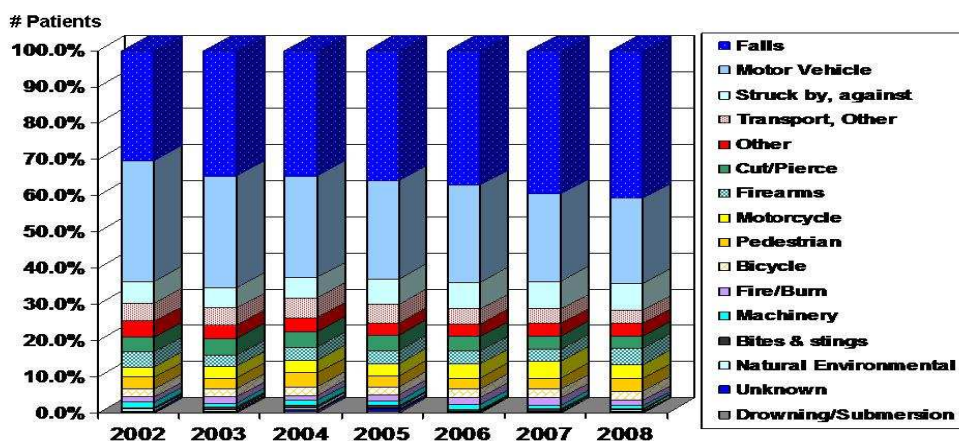


* Patients transported to a hospital. Exclusion: Isolated femoral neck fracture, over 55 years, fall on same level or from bed/chair.
 ** Based on University of Delaware, CADSR Single Year Projections 2000-2030 by County, gender and race.

Data submitted by all eight Delaware acute care hospitals is compiled into the Trauma System Registry. The above graph reflects hospitalized trauma patients only. Trauma in the elderly is a dramatically significant health problem. Injuries are a leading cause of hospitalization, long-term care placement, and death in the elderly.

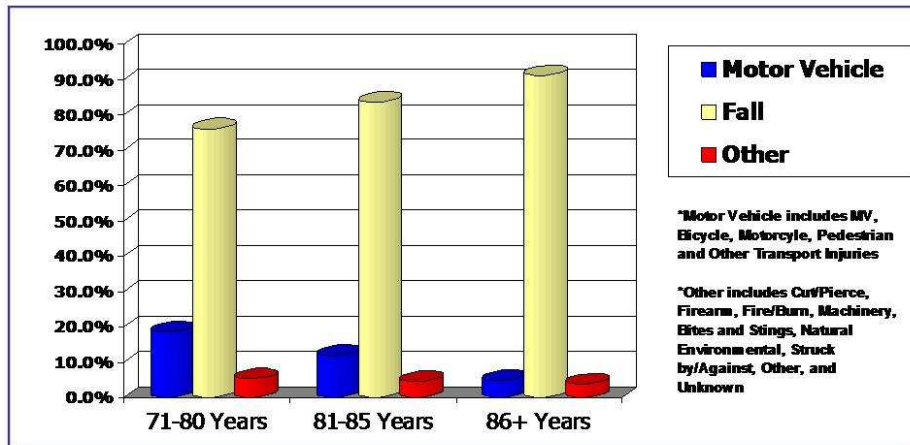
The breakdown below shows falls and motor vehicle crashes to be the most frequent causes of injury requiring hospitalization in Delaware.

Delaware Trauma System Registry Mechanism of Injury by Percent, 2002 - 2008



Falls are the number one cause of injury in the elderly by far.

Delaware Trauma System Registry Mechanism of Injury Elderly Delaware Residents by Age, 2008



* Patients transported to a hospital. Excludes isolated femoral neck fracture, over 55 years, fall on same level or from bed/chair.
 * Categories of injuries based on the CDC's recommended E-Code groupings

Supporting the statewide Trauma System and its injury prevention programs as part of the state's economic responsibility will yield a substantial return through decreased death and injury and decreased permanent disabilities that cause loss of productivity, and will result in a healthier and safer Delaware.



Dr. Ed Alexander presents Governor Jack Markell with honorary membership in the Delaware Chapter of the American College of Surgeons Committee on Trauma



*In Loving Memory of
 Our Friend E. James Manahan
 DE Trauma System Committee Member 1997-2009*

Emergency Medical Services for Children

EMSC



In 1984 legislation was enacted to fund Emergency Medical Services for Children (EMSC) programs in the states. The program was desperately needed because studies showed that mortality rates for children are higher than for adults in similar emergency conditions. Providers were not receiving training on how to care for children and ambulances and emergency departments lacked the correct sized equipment needed to care for children.

Children's heart rates, respiratory rates and blood pressures all change as they grow. Their airways are shaped differently for intubation, IV sizes are smaller and medications must be carefully calculated according to weight. **One size does not fit all!** Emotional reactions to illness and injury vary by developmental age. Healthcare providers must have the pediatric training and equipment needed to care for children.

In 1997 Delaware was awarded its first federal grant through the Maternal Child Health Bureau to improve Emergency Medical Services for Children (EMSC). The annual \$115,000 grant is awarded through Health Services and Resources Administration (HRSA) and the program in Delaware is administered through the state via a contract with the duPont Hospital for Children. In 2009, Delaware is still dependent upon annual federal grant funding for EMSC to meet children's needs in our ever-changing EMS System.

The State EMSC Advisory Committee has many accomplishments over the last ten years of DEMSOC including the following:

- Completed National EMSC Performance Measure surveys and from those, identified which ambulances were not equipped with essential equipment based on the American Academy of Pediatrics (AAP) guidelines. EMSC funds were used to purchase neonatal blood pressure cuffs for all of the state's ambulances so they would have all equipment on the AAP list.
- Purchased pediatric backboards for paramedic services and ambulance services throughout the state.
- Included pediatric emergency care physicians participation in paramedic Standing Order development.

- Developed a set of Pediatric Emergency Care Standards for the State's eight acute care hospitals and is actively working to implement a comprehensive statewide standardized system in which all pediatric emergency care facilities can be recognized for their ability to stabilize and/or manage pediatric medical emergencies.
- Implemented a program targeting Children with Special Healthcare Needs (CSHCN) in 2004. The Special Needs Alert Program (SNAP) identifies CSHCN for EMS providers across the state. Approximately 181 children are currently enrolled statewide. The University of Delaware completed an evaluation of the program in August of 2006 and found the program beneficial from the perspective of families and providers. EMSC staff also identified CSHCN as a training priority and provided the Special Children's Outreach and Prehospital Education (SCOPE) Course to all paramedics in Delaware in 2006.
- Provided Pediatric Education for Prehospital Providers (PEPP Course by the AAP) to all Delaware paramedics in 2007.
- Partnered with Child Care Licensing, Emergency Management and the American Red Cross of Delmarva to develop a childcare disaster preparedness training curriculum for use by all childcare agencies in the state.
- Developed the "Triaging Kids During a Disaster" CD-ROM with the Critical Illness and Trauma Foundation of Bozeman, MT. The CD has been used for pediatric continuing education credit.
- Worked with Delaware Technical and Community College Paramedic Technology and Nemours Pediatrics so that students must complete a four hour rotation in a Nemours Office with a pediatrician or nurse practitioner. This assures hands on pediatric experience for every student. This program is open to any paramedic or EMT requesting continuing education in pediatrics.
- Published two (in 2001 and 2008) Childhood Injury in Delaware Reports using death certificates and hospital discharge data. This publication is used by many organizations throughout the state to plan childhood injury prevention activities.
- Provided a pediatric emergency response demonstration and created a training video DVD each year at Safe Summer Day in Brecknock Park, Kent County. This event involves police and EMS agencies, plus a simulated trauma center that would be involved in pediatric emergency care.

Although there are many accomplishments, funding the program remains a challenge since 1997. Almost all federal grant funds are devoted to personnel. This leaves no funding for pediatric education programs for paramedics, EMTs and emergency department staff. Pediatric medication and equipment needs change as our healthcare system evolves. There is little to no opportunity to provide pediatric training and equipment to our ambulances and emergency departments without secure funding.

Other states have developed creative ways to fund their EMSC Programs by adding fees to vehicle registration and/or by enlisting the support of local charitable organizations, hospitals and/or universities. Delaware must find funding alternatives to assure pediatric emergency care needs are always met when a 911 call involves a child.



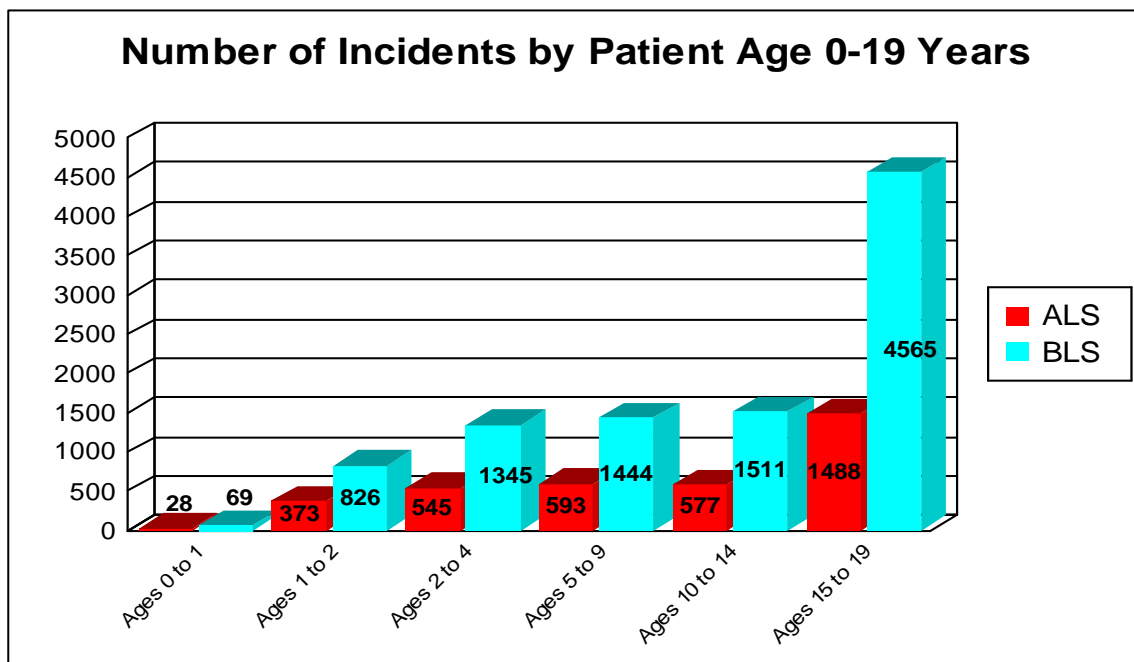
*Safe Summer Day
Bayhealth Medical Center -
Trauma Center*

EMSC 2009 Data

EMSC uses the EDIN system to monitor the number of pediatric calls, where the calls are occurring in Delaware, the most frequent primary impressions, and which procedures ALS and BLS providers most frequently perform on children.

EMSC Graph- 1

Total Number of Pediatric Reports (Ages 0-19) by Patient Age in 2009



Please note on EMSC Graph 1 that adding ALS and BLS numbers in each age group will lead to inaccurate totals. Adding the two numbers may count a single patient twice.

Key Points from EMSC Graph-1

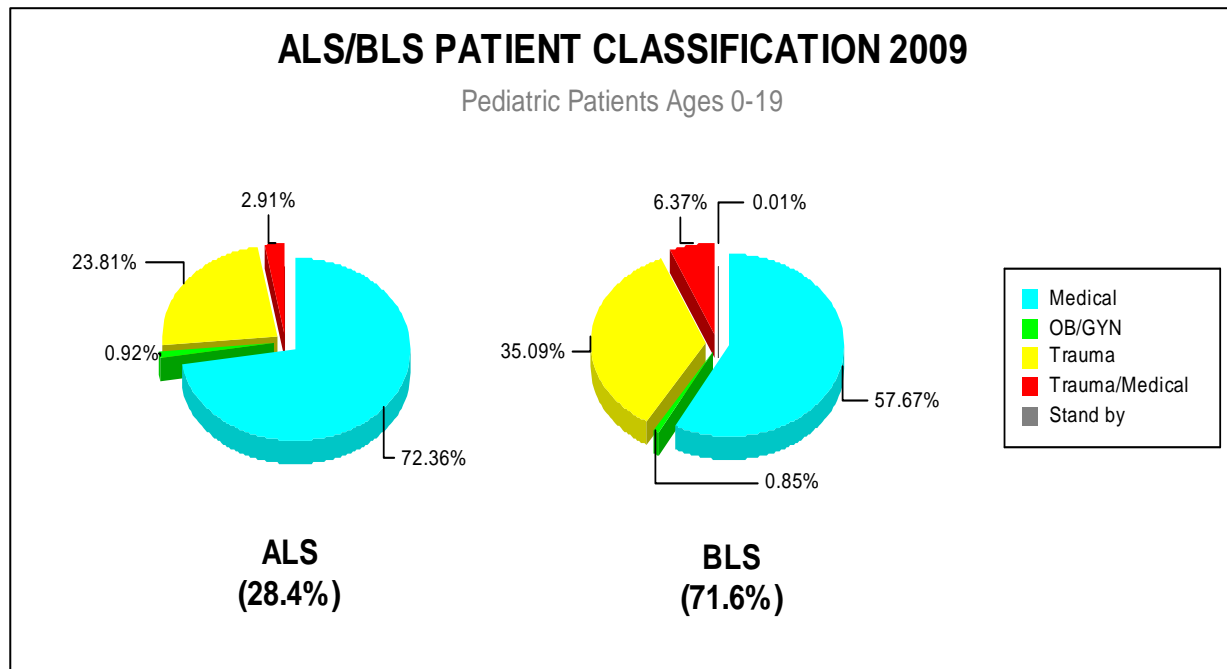
- **The greatest number of incidents for BLS providers is in the 15-19 year old age group.** Approximately 24 percent of all the BLS runs for 0-19 age group are due to motor vehicle crashes, and 53 percent of all trauma calls for 15-19 year olds, are due to motor vehicle crashes.
- **For ALS, calls in the 15-19 year old group 16 percent of all calls were due to motor vehicle crashes.** Also, 46 percent of all ALS trauma calls for 15-19 year olds, are due to motor vehicle crashes.

As expected ambulance services with the highest volumes of calls also see the highest number of children. For the BLS agencies - St. Francis Hospital ambulance service saw the greatest number of children in the City of Wilmington (1,559 calls). **The number of calls for ages 0-19 in the City of Wilmington increased 13.4 percent from 1,375 calls in 2008 to 1,559 calls in 2009.** Outside of the city Christiana Fire Company (806) and Aetna Fire Company (774), saw the highest volumes of children in the state respectively.

For the ALS agencies; New Castle County reported 1,938 (1,928 in 2008), Sussex reported 859 (up from 797 in 2008) and Kent reported 730 (735 in 2008) pediatric patients during 2009.

EMSC Graph – 2

Advanced Life Support vs. Basic Life Support Classification 2009



Total Incidents =13,364

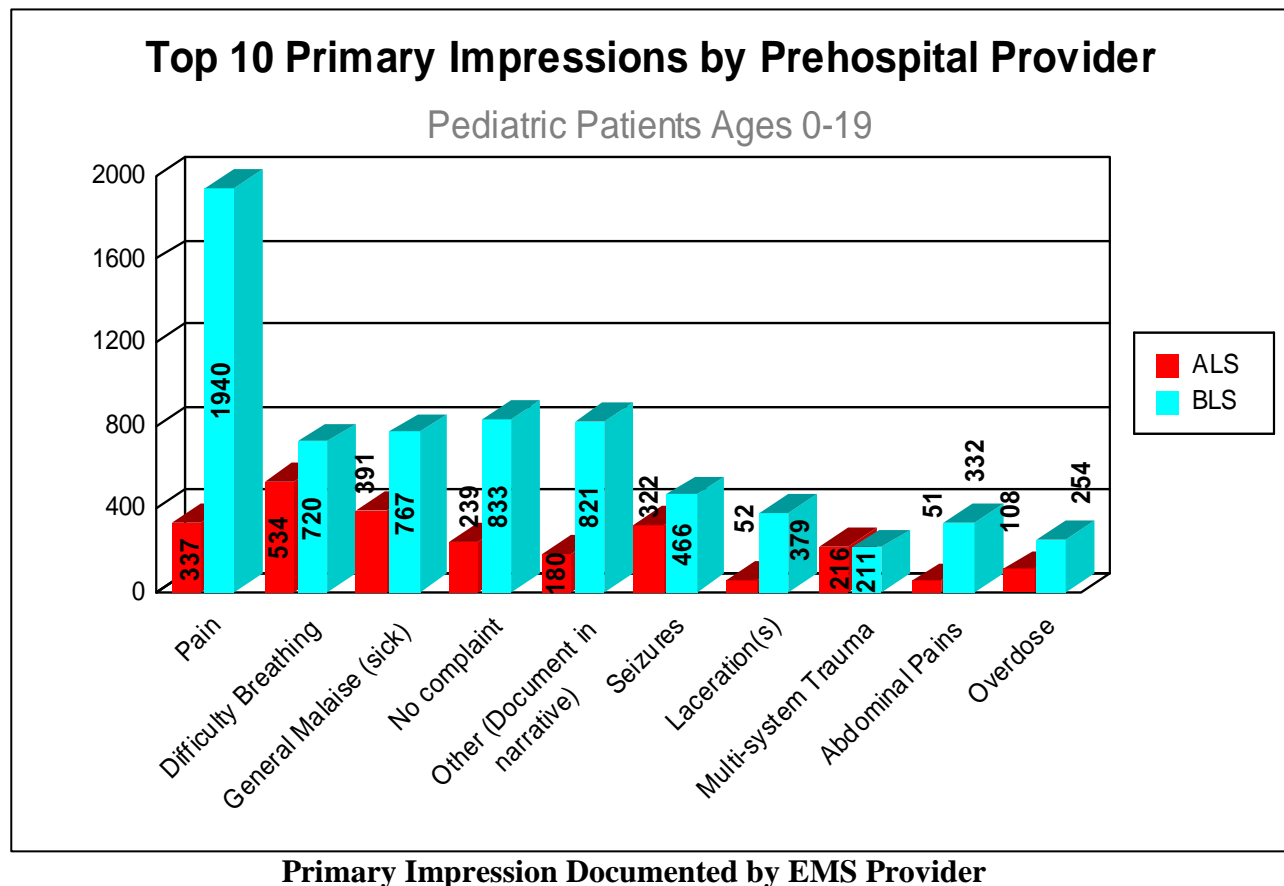
* Please note this includes Dead on Paramedic Arrival (DOPA), Refusal, Transport and Transfers of Service calls.

Key Points from EMSC-2

- The majority of pediatric ALS emergency calls are for medical reasons (72 percent).
- Over half of all pediatric BLS calls are medical in nature (58 percent).
- Trauma calls made up 24 percent of the ALS pediatric calls and 35 percent of the BLS calls in children.

Graph EMSC – 3

Top Ten Primary Impressions for Children 0-19 on EMS Patient Care Reports in 2009



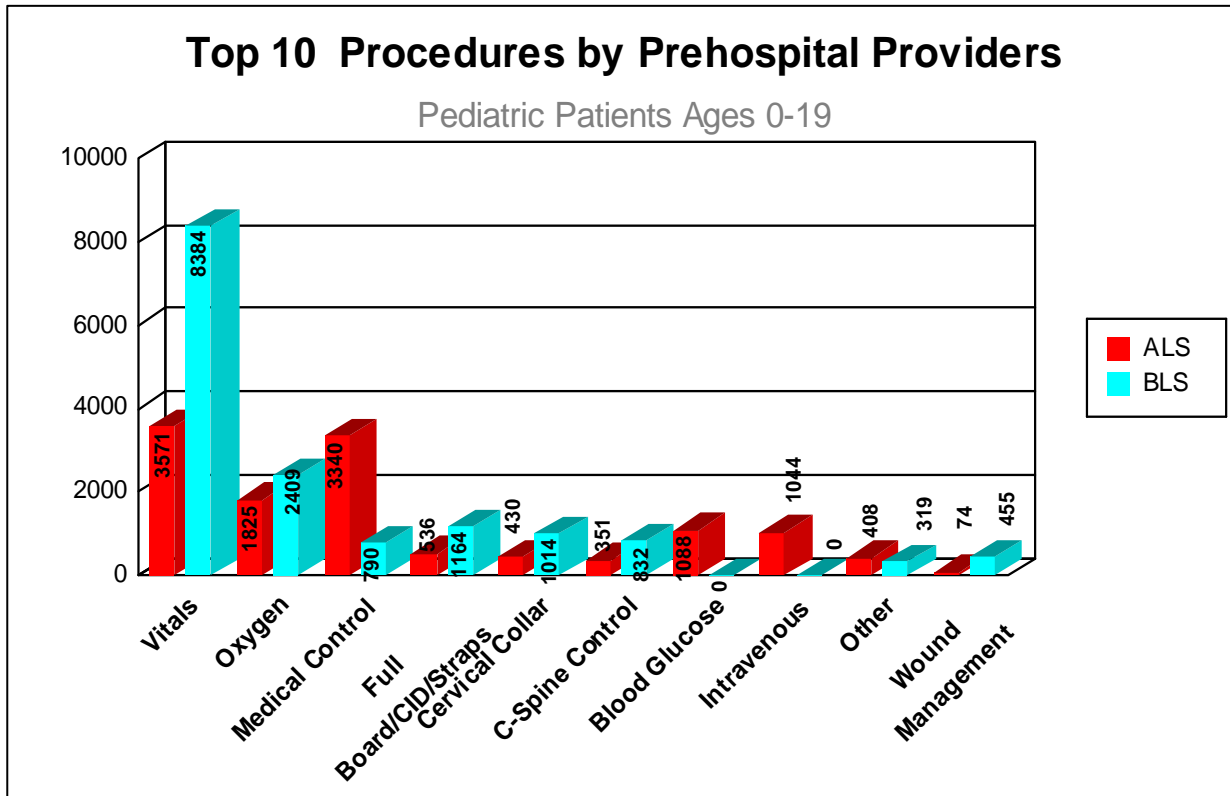
Key Points from EMSC Graph-3

- Pain continues to be the top primary impression encountered by BLS for children age 0-19.

- Difficulty breathing continues to be the top Primary impression encountered by ALS for children age 0-19.

EMSC Graph – 4

Top Ten Procedures Performed on Children 0-19 in 2009



Key Points from EMSC Graph - 4

Of the top ten procedures performed in the field, two of the procedures are related to spinal stabilization. ALS and BLS both frequently administer oxygen to children. ALS providers also frequently start intravenous lines and monitor blood glucose in children.

The goal of EMSC is reduce death and disability to children by improving pediatric emergency care. EMSC has many notable accomplishments over the last ten years. Despite twelve years of federal funding, the program remains unstable as long as it depends upon federal funding. Although OEMS and DEMSOC are taking steps towards permanence, there is still a great deal of work to be done to assure children's needs are addressed in all aspects of the EMS system.

Cardiovascular Care

Out-of-hospital cardiac arrest (OHCA) is the leading cause of death among adults in the United States and Western countries. It is estimated that approximately 300,000 - 400,000 deaths occur. Cardiac Disease refers to a variety of diseases and conditions effecting the heart and blood vessels. The two most common cardiovascular diseases in Delaware are heart disease and stroke. A large percentage of cardiovascular disease is preventable through public education and awareness. Through the combined efforts of various agencies in Delaware, emphasis placed on education and awareness will help reduce the risk factors of cardiovascular disease by creating a healthier lifestyle.

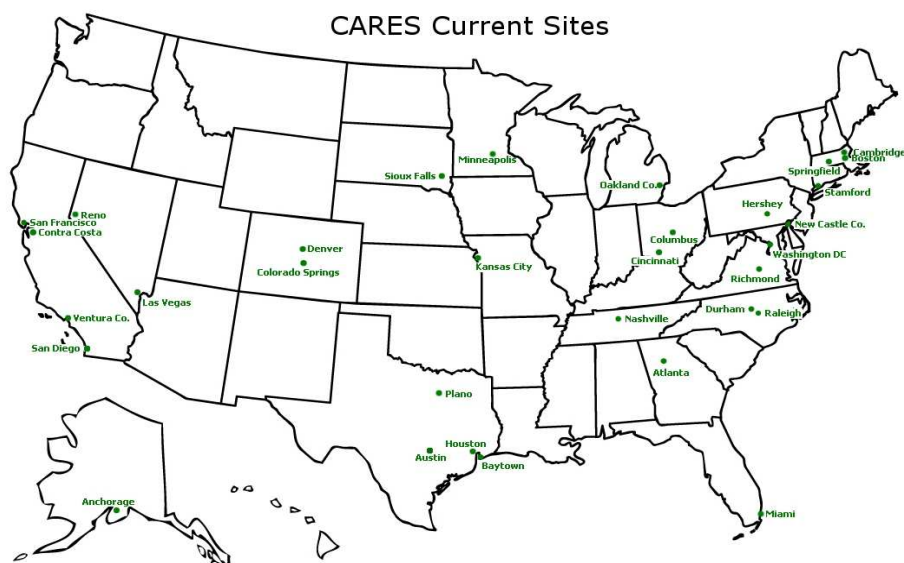
In 2009, Delaware Paramedics treated over 9000 patients with cardiovascular related complaints. Due to Delaware's native aging population and the migration of retirees to the state, this number is expected to rise substantially. The cardiovascular care programs of a large number of hospitals in Delaware have been expanded and EMS systems are integrating with hospitals to insure the continuity of care for patients transported by EMS.

CARDIAC ARREST REGISTRY TO ENHANCE SURVIVAL (CARES) PROGRAM:

The **CARES** (Cardiac Arrest Registry to Enhance Survival) Program is a collaborative effort of the Centers for Disease Control and Prevention (CDC), the American Heart Association (AHA) and the Emory University Department of Emergency Medicine, Section of Prehospital and Disaster Medicine. The CDC and the AHA are working together to reduce the death rate from heart disease and stroke by 25% from the years 2000-2010. One of the CDC's initiatives is to develop a model national registry to accurately measure our progress in the treatment of OHCA.

The ultimate goals of **CARES** is to help local EMS administrators and medical directors identify who is affected, when and where cardiac arrest events occur, which elements of the system are functioning properly which elements are not, and how changes can be made to improve cardiac arrest outcomes. (*From the CARES website public access <https://mycares.net>*)

The CARES site coordinator visited New Castle County EMS, in March of 2009, with Medical Direction, New Castle County EMS administration, and representatives from all acute care hospitals in NCC (A.I. duPont, Christiana, St. Francis, and Wilmington). The strong support from these particular hospitals and the long-standing relationship between the hospitals and New Castle County EMS was sited as a significant factor in the rapid acceptance of New Castle County EMS into the CARES



project. New Castle County EMS quickly organized the data collection methods and began registering patients in the CARES database in the latter part of March of 2009.

The CARES data for 2009 includes 238 attempted resuscitations entered from the start of participation on April 1, 2009 through December 31, 2009. Data is complete for all patients transported to NCC hospitals including survival to discharge and level of cerebral performance if discharged.

When compared to peers in the CARES group, New Castle County fared very well and was in the upper 1/3 of the group based on Utstein survival reporting. For 2009, NCC Utstein survival was 32.4% and was above the national average of 26.9%.

One area noted for improvement was in bystander CPR. At under 17%, this will be a focus going forward. Dispatchers at NCC 9-1-1 center are already working to have those calling in initiate CPR and continue to perform CPR until EMS arrives. Plans are also in place to learn more about “hands only” CPR in light of a growing body of evidence that compressions are the most important part of CPR and ventilations may have no positive and potentially negative effects on outcome. It is possible that dispatchers may coach bystanders to perform this type of CPR with the hope that more will do so and that additional first responder or lay-person courses could be initiated to add to the number of trained CPR providers in the community and increase the chances that a patient with a witnessed cardiac arrest will have effective CPR performed.

NCC has learned valuable data in the first year participating in CARES. As they move forward and add to the number of cases in the database, they expect to be able to identify other trends that will point them toward areas of performance excellence and areas with opportunities for improvement.

CARDIAC ALERT/CODE: Paramedics use 12 lead EKG analysis on any patient who presents with a cardiac related complaint or presents with signs and symptoms of acute myocardial infarction AMI/heart attack. Cardiac Alert/Cardiac Code is a chain of events involving the systematic response of rapid identification of AMI/heart attack in the field, notifying the appropriate specialized cardiac care hospital immediately and transporting the patient to that hospital.

This systematic approach has been shown to reduce the interval to 30 minutes or less from time of onset of symptoms/identification of AMI to cardiac catheterization. Studies continue to show that patients who experience this systematic response and care have a lower mortality rate and a shorter hospital stay.

STROKE: Stroke is the other major factor in the cardiovascular care equation. Strokes accounted for 1390 EMS incidents in 2009. As with AMI/heart attack, stroke has a very narrow therapeutic treatment window and requires rapid identification, rapid transport, notifying the appropriate stroke care center, and transport to that care center. The EMS role in stroke management is extremely vital as EMTs and paramedics must properly identify the signs and symptoms of stroke and initiate rapid transport to the appropriate hospital.

Domestic Preparedness

2009 H1N1: Outbreaks of 2009 H1N1 Influenza presented a potentially significant threat to responders. Those infected would be unable to staff state EMS resources. The affected public would increase the calls for service. When combined, these two factors could lead to a critical system deficiency.

Public Health Preparedness, working through the Office of Emergency Medical Services, stepped up to achieve many initiatives to address the pandemic situation. PHPS obtained doses of H1N1 monovalent vaccine specifically designated for emergency responders. OEMS developed a policy based on existing Public Health standards for vaccine administration. This policy allowed state paramedics to administer vaccine as part of a PHPS sanctioned event. OEMS staff, with assistance from various paramedic agencies, conducted 15 H1N1 vaccination clinics throughout the state to ensure vaccine availability to the EMS priority group. Protocols were put into place to enable paramedics to provide vaccination in specific situations.



In cases of anticipated, actual, or pending public health need paramedics may be authorized by the Director of Public Health and the State EMS Medical Director to give immunizations and vaccinations against infectious/communicable diseases. Specific immunization standing orders, administrative procedures, and modifications to existing protocol must be authorized and signed by the Director of Public Health, the State EMS Medical Director and the State EMS Director. This standing order meets or exceeds the policy standards and guidelines established by the National Vaccine Advisory Committee of the Centers for Disease Control (CDC). Participation in the vaccination program by Delaware Paramedic Agencies is elective. (Immunizations Standing Orders for Paramedic Administration 2009-2010)

Delaware Emergency Management Agency, through the National Center for Biomedical Research and Training at Louisiana State University, offered the PER-220 course – Emergency Response to Domestic Biological Incidents. This three-day course brought together emergency responders, planners and administrators from a multitude of state agencies. It focused on planning for and responding to emergency events of biological origin. Two staff members from OEMS attended and completed the program.

TOXMEDIC PROTOCOLS: These protocols were developed to delineate the requirements and responsibilities of various agencies when providers or patients are exposed to hazardous substances. Patients who have been exposed to chemicals and weapons of mass destruction often require procedures, medication and treatments that are not in the scope of a normal field paramedic. Participation in the Toxmedic program by Delaware paramedic agencies is elective. Each of the state's ALS agencies continues to participate.

Each paramedic identified as a "Toxmedic" has successfully completed the Advanced Hazmat Life Support Course (AHLS). AHLS program is a 2-day, 16 hour course sponsored by the Division of Public Health.

The AHLS program focuses on medical management of people exposed to hazardous materials, including nuclear, biological and chemical terrorism. Participants are trained to provide rapid assessment of hazmat patients, recognize toxic syndromes, provide medical management for hazmat patients, apply the poisoning treatment paradigm and administer specific antidotes.

This year Public Health Preparedness and the OEMS offered the AHLS class at the Delaware State Fire School in May. 15 students completed the provider portion of the class.

A need was recognized to train additional instructors for the AHLS program. Following the May provider course, a one-day instructor class was also held. Four students completed this program.



NERVE AGENT ANTIDOTE PROTOCOLS FOR BLS AND PUBLIC SAFETY: The protocol was designed to outline the process by which BLS and Public Safety agencies train, acquire, maintain, use and discard MARK I Nerve Agent Antidote Kits. When responding to an act of chemical terrorism or a hazardous materials incident, emergency responders may be exposed to harmful, even fatal doses of nerve agents. In these situations, responders may need to administer life saving medications to themselves or fellow responders in a rapid time frame. The decision for an agency to participate in the MARK I program is voluntary; however, those agencies wishing to participate must comply with the Nerve Agent Antidote protocol outlining training and quality assurance requirements.

In 2007, Meridian Medical Technologies, the manufacturer of the Mark I Nerve Agent Antidote kit, ceased producing those units. They have replaced the Mark I kit with the DuoDote™. The

DuoDote™ is a single autoinjector that administers both nerve agent antidotes through a single device.

In 2009, the Office of Emergency Medical Services working with the Homeland Security Terrorism Preparedness Working Group and Public Health Preparedness obtained DuoDote™ replacements for services whose kits have expired. Approximately 800 DuoDote™ autoinjectors were received and distributed to replace outdates. Additional DuoDotes™ were distributed to additional EMS agencies who wished to begin participation in the Nerve Agent Antidote Program.

TRAUMA: Historically, the majority of world-wide terrorist events involve some sort of blast or traumatic injury inflicted upon the victims. Emphasis on the statewide trauma system and the EMS care of patients injured by blast or trauma remains an important aspect of domestic preparedness efforts. EMS agencies throughout the state continue working together to develop and test plans that ensure trauma patients in mass casualty situations get to proper care as quickly as possible.

Delaware EMS Medical Directors approved the use of some hemostatic agents by responders. These agents provide a mechanism for the control of bleeding caused by major traumatic injuries such as blast trauma.

Tourniquets are a medical device used to tamponade blood flow in order to reduce bleeding in an injured extremity. Their use had almost disappeared from most prehospital training programs over the past few years. However, recent studies of war-time casualty care have pointed to their usefulness in combat traumatic injury. As a result of this, there has been resurgence in support for adding tourniquets to the arsenal of equipment to control prehospital traumatic hemorrhage.

The uses of both hemostatic agents and tourniquets have been included in trauma care protocols for both the ALS and BLS standing orders.

TECHNICAL ASSISTANCE: Since 2007, the Office of Emergency Medical Services working with the Office of Public Health Preparedness and the Delaware State Fire School has contracted a senior paramedic to provide EMS agencies with technical assistance on domestic preparedness issues. This position continues to produce a number of projects to assess current preparedness efforts and plan for future preparedness initiatives.

The goal of OEMS domestic preparedness efforts is to increase the readiness of all Delaware responders to prepare for an all-risk response. This includes incidents of terrorism, hazardous materials releases, specialized and technical rescue, severe weather events, mass illness outbreaks and mass casualty situations. Efforts will be made to increase the interagency operability between EMS and other state response and preparedness agencies.

An inventory of emergency equipment (portable generators, air systems, rescue equipment) that may be helpful to respond to disaster situations continues to be upgraded annually. The goal is to be able to quickly locate and access this equipment in a multi-agency disaster response.

OEMS continues to work on training initiatives aimed at disaster, terrorism, and special operation issues. Distant learning enables state responders to train in the comfort of their homes or stations.

Education and Training

Emergency Medical Service (EMS) education in Delaware is provided at three nationally recognized levels. They are First Responder, Emergency Medical Technician-Basic (EMT-B), and Emergency Medical Technician-Paramedic (EMT-P). Registration through the National Registry of Emergency Medical Technicians (NREMT) is offered for each of these levels.

The First Responder, Basic and Paramedic programs provide for a gradual increase in the complexity and comprehensive knowledge level for the student. An individual may begin at any level of EMS education. Each higher-level program reinforces the basic skills and then adds additional advanced training.

In 2005 the National Highway Traffic and Safety Administration (NHTSA) developed *The National EMS Scope of Practice Model*. “The National EMS Scope of Practice Model is a continuation of NHTSA and the Health Resources and Services Administrations implementation of the *EMS Agenda for the Future*.” *The National EMS Scope of Practice Model* identifies and defines four levels of EMS licensure, with each level representing a specific knowledge and skills set that build upon each other.

According to NHTSA (2005); “the challenge facing the EMS community is to develop a system that establishes national standards for personnel licensure and their minimum competencies while remaining flexible enough to meet the unique needs of State and local jurisdictions.”

The Office of EMS, in conjunction with DEMSOC, will review *The National EMS Scope of Practice Model* to determine the feasibility of incorporating its concept/design into EMS practices in Delaware. Strong rationale for adopting *The National EMS Scope of Practice Model* is that it will increase public awareness and understanding of EMS personnel, and support the professional image of EMS providers. It will also better integrate EMS into the overall healthcare model practiced throughout the nation.

FIRST RESPONDER: First Responder training is a 40-hour program and is aimed primarily at police, firefighters and industrial first aid squads. The emphasis of this course prepares the responder to address immediate life threats and injuries until more highly trained personnel are available. The First Responder training follows a national standard curriculum established by the U.S. Department of Transportation (DOT). This program is offered through the Delaware State Fire School and a few private educational companies in the state. A 12-hour DOT refresher course must be completed every two years to re-certify.



EMT-BASIC: The Emergency Medical Technician-Basic course is designed to prepare an individual to function independently in a medical emergency. The EMT-B certification is the basic life support (BLS) standard of care for the State Of Delaware. In 1998, the State Fire Prevention Commission adopted EMT-B as the primary certification required for care providers on Delaware ambulances. The course requires a minimum of 120 hours of classroom and skills



instruction and approximately 10 hours of clinical rotations. EMT-B follows a national standard curriculum established by the U.S. Department of Transportation (DOT). This course provides the students with in-depth knowledge and skill-based training to appropriately assess, stabilize, monitor, and transport the pre-hospital patient. In addition, the student will become familiar with medic assist functions and the use of an Automatic External Defibrillator (AED). Delaware certification requires successful completion of a written (National Registry) and practical skills examination.

The lead agency for EMT-B education is the Delaware State Fire School. Medical oversight and curriculum review is through the Office of EMS. The cost of training is provided by the State for students affiliated with a volunteer provider agency.

In 2008, The Office of EMS and State Fire Prevention Commission finalized the Educational Standards document which outlines procedure for training agencies to follow when conducting Basic Life Support Education.

To remain certified as an EMT-B in Delaware, providers must complete a state sanctioned 24-hour DOT refresher program every two years, as well as a healthcare provider level CPR/AED course. To maintain National Registry EMT-B certification, the provider must complete a 24-hour DOT refresher course, 48 hours of continuing education credits, and a healthcare provider level CPR/AED course.

EMT-PARAMEDIC (*Submitted by DTCC*): EMT-Paramedic (EMT-P) is the advanced life support (ALS) standard of care for the State of Delaware. Delaware Technical & Community College offers paramedic education through a two-year Associate of Applied Sciences degree program that follows the national standard curriculum established by the U.S. Department of Transportation (DOT). Developing leadership and decision making skills as part of a student's clinical practice is emphasized throughout the program consisting of approximately 2,000 hours of classroom, simulation lab, clinical and field internship experiences.



The program has been reviewed by the Committee on Accreditation of Education Programs for the EMS Professions (CoAEMSP) and has continuously maintained accreditation through its

parent body, the Commission on Accreditation of Allied Health Education Programs (CAAHEP), since 1999. It is the only accredited paramedic program within the State of Delaware and one of eight accredited paramedic programs within 100 miles of Delaware's borders.



To obtain Delaware paramedic certification, candidates must successfully complete both a written and a practical skills examination by the National Registry of Emergency Medical Technicians. Additionally, they must maintain current certifications in advanced cardiac life support (ACLS), pediatric advanced life support (PALS), and a specialized trauma certification course (PHTLS or ITLS).

In 2009 the Delaware Tech Paramedic Program graduated the program's 10th paramedic class. A total of 111 paramedics have successfully completed the Program since its inception. One hundred percent of the Program's graduates have successfully passed the National Registry of Emergency Medical Technicians Paramedic examination.



Delaware Tech Paramedic Class of 2009 – Class 10

EMS INSTRUCTOR COURSE: In Delaware, the instructor level or Methodology course trains individuals to teach the U.S. Department of Transportation (DOT) basic and advanced level courses. The course emphasis is on the development of teaching skills as opposed to emergency care skills. To enter into an instructor level course an individual must already have expertise in the subject matter and a strong EMS knowledge base.

The State of Delaware recognizes two instructor level courses. The National Fire Protection Agency (NFPA) instructor Level I and II which is taught at the Delaware State Fire School and the second a Methodology course based on the NHTSA National Guidelines for Educating EMS Instructors which is taught by many EMS agencies. These two courses prepare the EMS instructor for the specific and unique subject matter that faces the emergency medical system. Delaware Technical and Community College requires an Associates Degree and 6 years experience or a Bachelor Degree and 4 years of experience to instruct at the EMT-Paramedic level. All Paramedic Instructors must hold a Paramedic or RN, who practices in a related field, license.

FIELD TRAINING OFFICER (FTO) PROGRAM: Each Advanced Life Support agency in Delaware has developed a FTO process to meet their needs. The FTO programs for the ALS agencies are the joint responsibility of the Medical Director and the agency. The agency and the agency's Medical Director have the flexibility to design their process to meet the needs of their organization, i.e., the requirements to be a flight medic, tactical medic, or an interfacility medic which may be different from a traditional "street medic." The agency's Medical Director is responsible to certify to the State Medical Director, the Board of Medical Practice and the citizens of Delaware the relative competence of the paramedic.

CONTINUING EDUCATION AND DISTANCE LEARNING: The Office of EMS approves all prehospital training conducted in the State of Delaware. The most popular of this training is distance learning. Prehospital providers are taking advantage of the benefits of receiving continuing education training online. The internet has given prehospital providers the foremost source for current in-depth education and research regarding EMS. National Registry of EMT also allows EMT-Basic to count 24 hours of distance learning toward recertification and 12 hours for Paramedics.

EMERGENCY MEDICAL DISPATCH: All public safety answering points (PSAP) that dispatch ambulance personnel are required to use the Priority Medical Dispatch System (PMDS). All dispatchers employed at those PSAPs must be certified Emergency Medical Dispatchers (EMDs). EMS training is provided on an as-needed basis by in-state EMD trainers. The initial course is 24 hours in length and requires 24 hours of continuing education every 2 years, to maintain national certification.

EMS System Resources



75 **Emergency Department
and Hospital Diversion
Data**



78 **Human Resources and
Workforce Development**



81 **Material Resources**

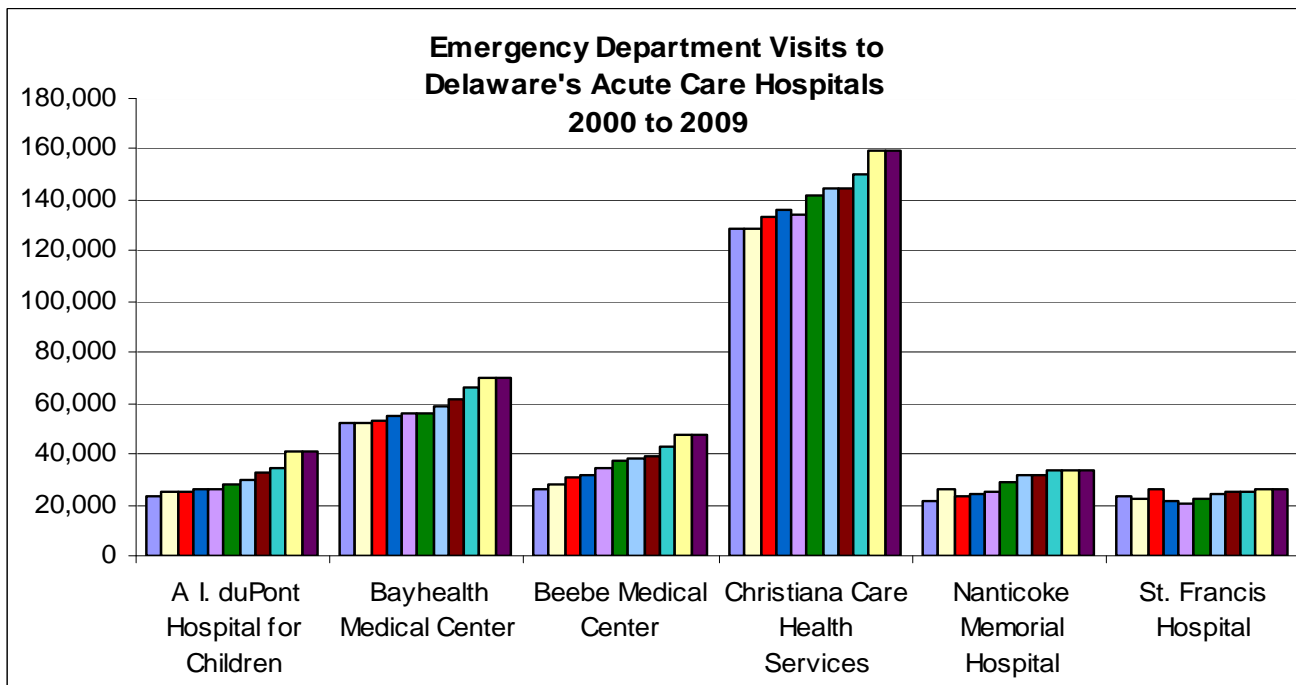
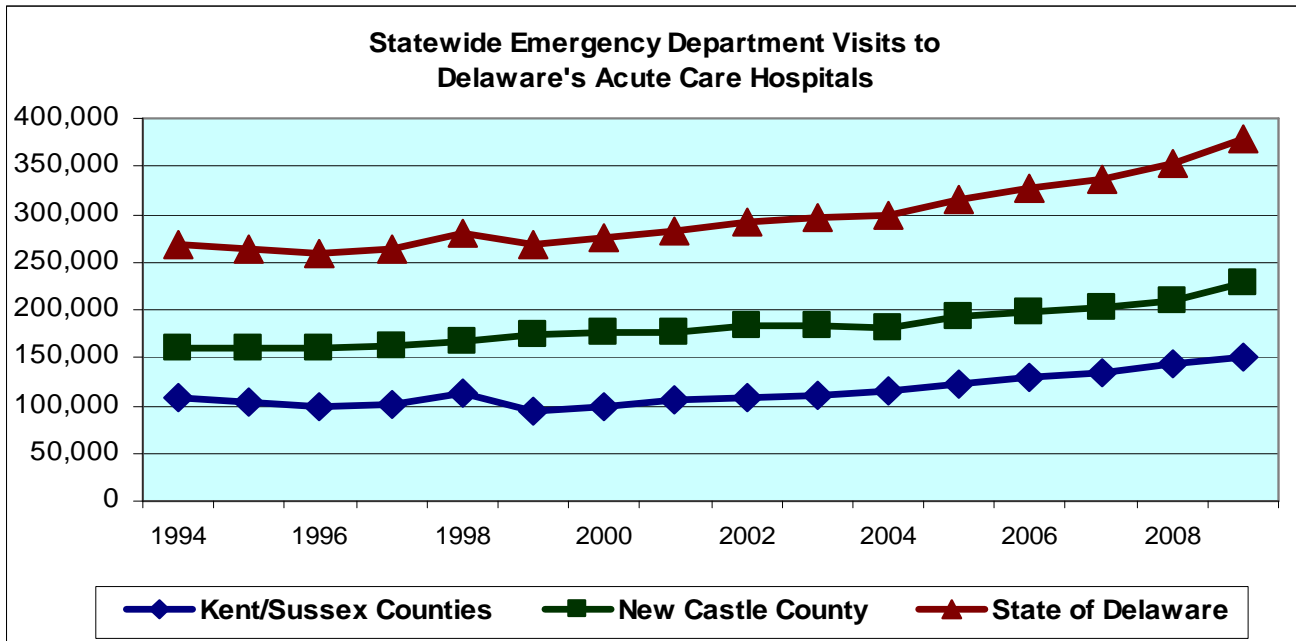


83 **Public Health Preparedness**

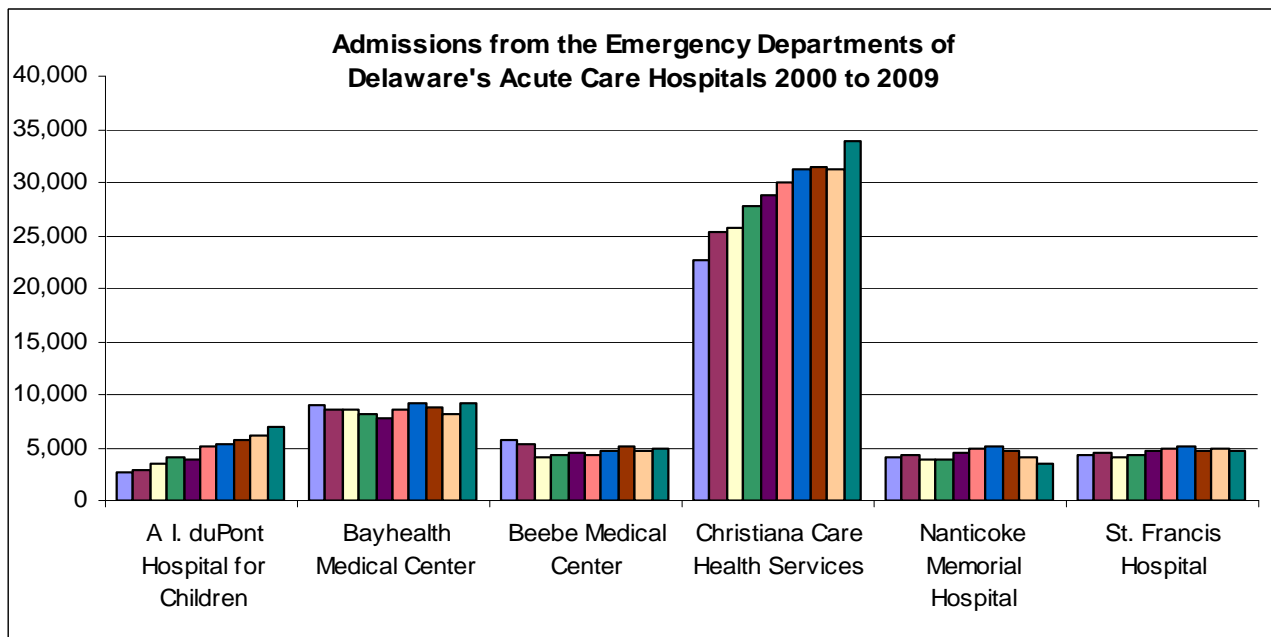
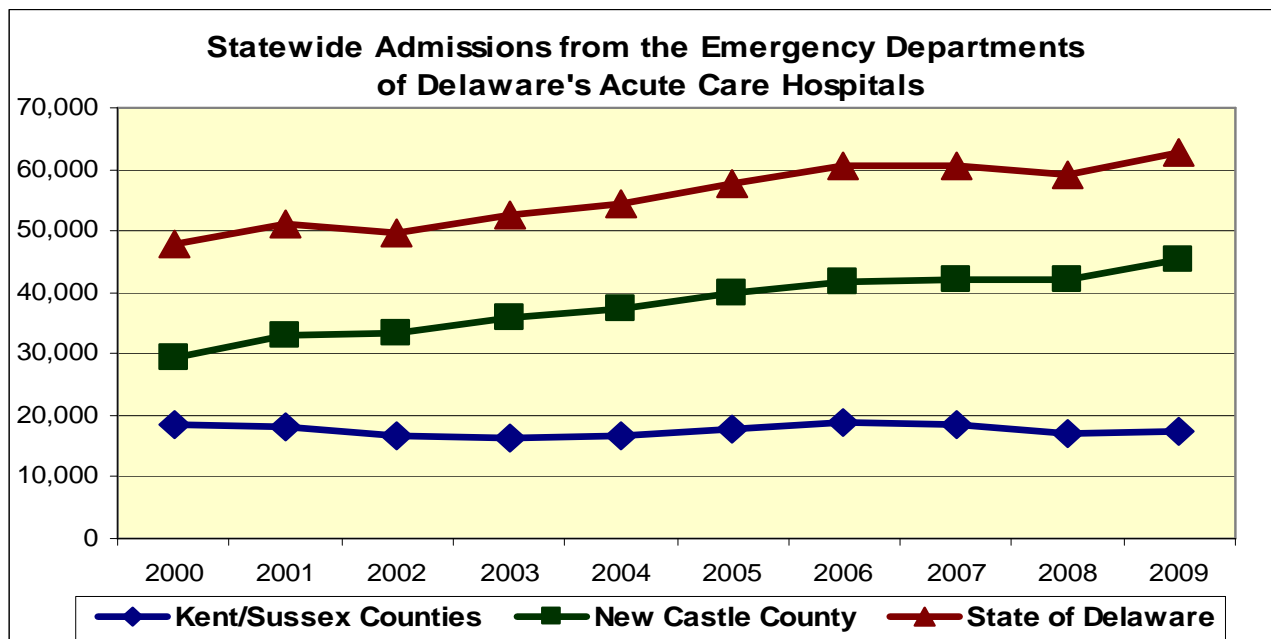
Page Left Blank Intentionally

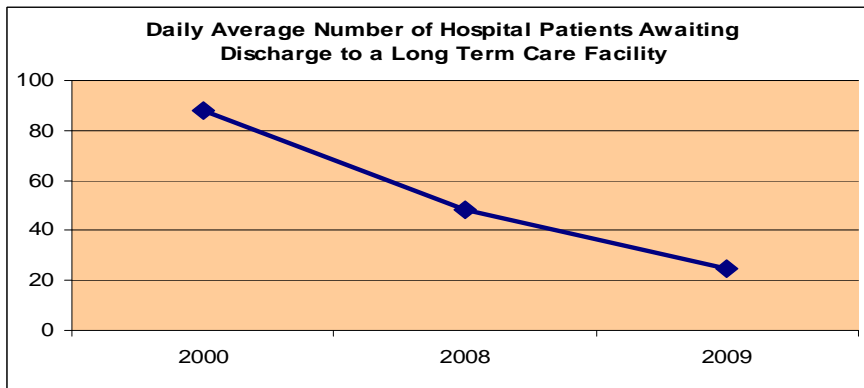
Emergency Department and Hospital Diversion Data

Information provided by the Delaware Healthcare Association indicates there were 378,035 visits to the Delaware acute care hospital emergency departments in 2009. This is an increase of 103,504 hospital emergency department visits (27.38%) statewide from the same period in 2000.



In addition, there were 62,835 patient admissions from the emergency department for 2009, an increase of 14,823 (23.59%) from the same period in 2000.

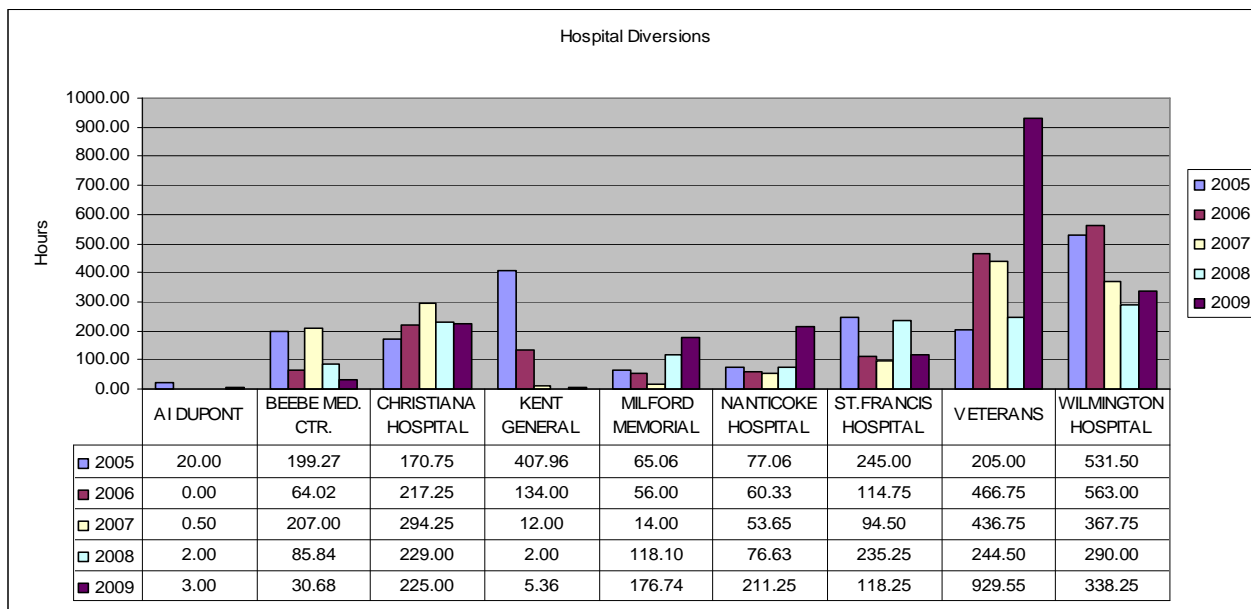




In 2009, there were still an average of 25 patients in Delaware acute care hospitals on any given day that no longer required hospital care, but the patient remained in the hospital awaiting discharge to post-acute care settings. This inability to discharge inpatients results in a shortage of inpatient beds available for the admission of emergency department patients. This also has a direct negative impact on the frequency of hospital diversions and the BLS providers that must take patients to other hospitals outside of the BLS provider's immediate service area.

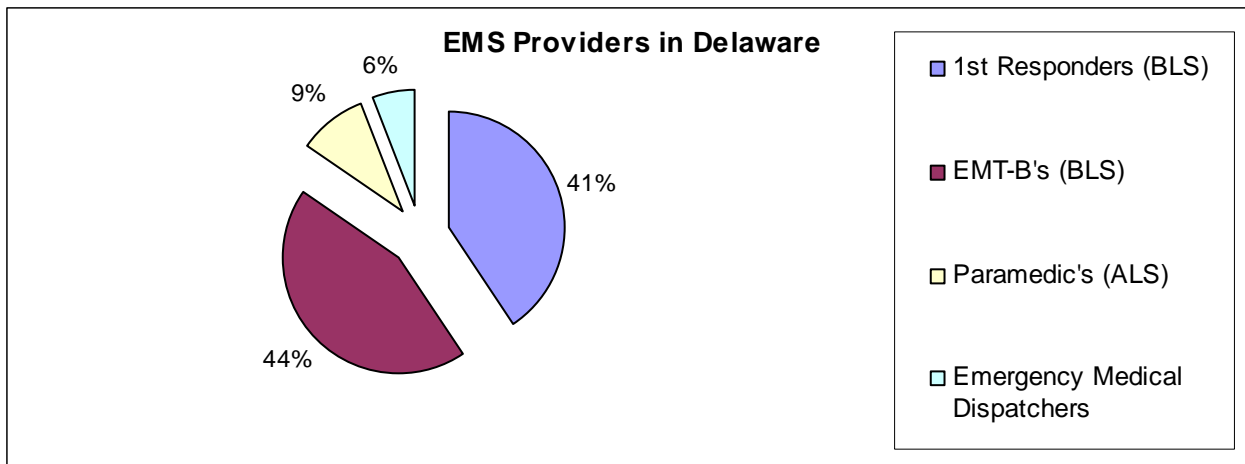
Note: There were several long term care facilities along with a dedicated pediatric long term care facility which opened between 2000 and 2008. In addition, several hospitals are educating patients and their families about short-term alternatives to waiting for a long term care bed within the hospital. It has drastically reduced the number of patients waiting for long term care beds. The largest numbers of patients awaiting long term care beds are Medicaid and Medicare patients.

Hospital Diversions Chart



This graph shows EMS hours of diversions from hospital emergency departments. Delaware acute care hospitals continued to experience increases in emergency department patient visits during 2009, and in many cases overcrowding. This overcrowding has many times resulted in increased ambulance diversion to surrounding hospitals.

Human Resources and Workforce Development



Above is a graph that shows the number of prehospital providers. These are the individuals that are responsible for “taking the calls”. In addition to the prehospital providers, Medical Control Physicians are an integral part of the system. The medical control physician’s give “on-line” medical direction to the providers and are the receiving physicians within the emergency rooms of the state.

Work continued in 2009 on recruitment and retention of EMS providers. There is a national shortage of EMS providers. Although Delaware is also affected by a shortage of EMS providers, the agencies across the state have worked hard to improve recruitment and retention, compensation, work conditions, training and diversity. The demand for EMS services is also expected to increase, as the state’s population ages. The Delaware Population Consortium projects that from 2005-2015, Delaware’s population will increase by 15%, and the number of residents 60 years and older is expected to increase 27%.

While the aging population is increasing, the volunteer population is beginning to decrease. Information from the National Registry of Emergency Medical Technicians shows that the majority of EMS responders nationwide are between the ages of 20-45. Many people within this age range are finding it more difficult to volunteer their time with the increases in dual income and single parent families, and the fact that many people are working longer hours.

DEMSOC created a workforce diversity subcommittee in 2006 to address issues with the recruiting and retention of a more diverse EMS workforce. As part of this effort, the Office of Emergency Medical Services is working with technical high schools throughout the state to develop an EMS program that would increase the availability of training and allow students to transition to the Delaware Tech program upon graduation.

Increasing demand for services fueled by a rising population and aging baby boomers has placed many volunteer fire companies into a position of hiring staff to cover basic life support (BLS) ambulance runs. Below is a listing by company of part-time and full-time paid personnel for 2008. This information also contains the shifts covered by paid personnel and if paid personnel also responds on fire/rescue calls.

New Castle County	Total Paid personnel	Shifts covered
Aetna Hose Hook & Ladder	8 FT - 40 PT	24 hour coverage
Belvedere Fire Co. 30	N/A	N/A
Brandywine Hundred Fire Co. 11	8FT	24/7
Christiana Fire Co. 12	8 FT - 50 PT	24/7
Claymont Fire Company 13	9	24/72
Cranston Heights Fire Co. 14	6 FT - 20 PT	24/7
Delaware City Fire Company 15	4FT	24 On ~ 72 Off
Elsmere Fire Co. 16	4 FT - 15 PT	24/7
Five Points Fire Company 17	2 FT - 25 PT	
Goodwill Fire Company	6 FT-18PT	24/7
Hockessin Fire Co. 19	9 FT	24/7
Holloway Terrace Fire Co.	40 PT	24/7
MillCreek Fire Company 21	9 FT - 11 PT	24/7
Minquadales Fire Company 22	8	24/7
Minquas Fire Co. 23	6 FT	24/7
Odessa Fire Co. 24	32PT	24/7
Port Penn Vol. Fire Co. 29	4 FT - 21 PT	24/7
Talleyville Fire Co.	11FT- 15PT	24/7
Townsend Fire Co. 26	2 FT	M-F 5AM - 3PM
Volunteer Hose Company	8 FT 15 PT	24/7
Univ of DE Emer. Care Unit	None	None
Wilmington Fire Department 100	172	24/72
Wilmington Manor Fire Co.	9 FT - 11 PT	24/7
Kent County	Total Paid personnel	Shifts covered
Bowers Fire Co. 40	2	6A-6P
Camden-Wyoming Fire Co. 41	6F-19P	24/7
Carlisle Fire Company 42	2F-9P	24/7
Cheswold Fire Co. 43	6F-10P	24/7
Clayton Fire Co. 6	0	0
Felton Community Fire Co. 48	8F	24/7
Frederica Vol. Fire Co. 49	2	6A-6P 5DAYS
Harrington Fire Co. 50	2	6A-6P 7 DAYS
Hartly Fire Co. 51	1	8A-5P M-F
Leipsic Fire Co. 53		
Magnolia Vol. Fire Dept. 55	19P	24/7
Marydel Fire Co. 56	0	
Smyrna American Legion 64	6F-6P	6A-6P 7DAYS
South Bowers Fire Company		

Sussex County	Total Paid personnel	Shifts covered
Blades Fire Co.	1FT- 6PT	6 - 6 7 DAYS
Bridgeville Fire Company 72	2FT	6 -6 7 DAYS
Dagsboro Fire Co. 73	3 FT - 15PT	24/7
Delmar Fire Co.	8 FT	24/7
Ellendale Fire Co. 75	4FT 20PT	24/7
Frankford Fire Co. 76	3FT	24/7
Georgetown American Legion		
Greenwood Fire Co. 78	2FT	6-6 7DAYS
Gumboro Vol. Fire Co. 79	3FT- 9PT	6-6 7 DAYS
Laurel Fire Dept. 81	7FT- 10PT	24/7
Lewes Fire Dept 82	10FT- 6PT	24/72
Memorial Fire Co. 89	2FT- 6PT	4ON/4OFF
Mid Sussex Rescue Squad Inc.		
Millsboro Fire Co 83	6 FT -10PT	24/7
Millville Vol Fire Company 84	9 FT -18PT	24/7
Milton Fire Co. 85	1FT- 9PT	24/7
Rehoboth Beach Vol. Fire Co. 86	8 FT- 30PT	24/7
Roxana Vol. Fire Co. 90	2FT	6-6
Seaford Vol Fire Co. 87	8FT	
Selbyville Fire Co. 88	3FT - 8PT	



Material and Specialized Equipment Resources

The State of Delaware also provides specialized resources. These resources are located throughout the state and are specific to the needs of each county. The charts below list some of the specialized resources the state currently has in-service.

Department	HazMat/WMD	Confined Space, Collapse, & High Angle Rescue	Water Rescue	Other
New Castle County				
Belvedere	HazMat 30			
Christiana			12 Marine 2	
Claymont		USAR 13	13 Marine 2	
Cranston Heights	HazMat 14 HazMat 14 Support			
Delaware City		SpecOps 15	TSU 15 15 Marine 1 15 Marine 2	
Elsmere	HazMat 16 Decon 1			
Five Points	HazMat 17			
Goodwill			MRU 18 18 Marine 1	
Holloway Terrace			MRU 20 Dive 1 Fire Boat 20 20 Marine 1 20 Marine 2 20 Marine 3 SpecOps 20	
Middletown			27 Marine 2	Air 27 (Mobile Air Unit)
Minquas			MRU 23 23 Marine 1 23 Marine 2	
Odessa	FDU 4		24 Marine 2	Rehab 24
Port Penn			MRU 29 29 Marine 1 29 Marine 2	Argo 29 (amphibious)
Townsend	SCBA 26 Cache 26		26 Marine 2	

Department	HazMat/WMD	Confined Space, Collapse, & High Angle Rescue	Water Rescue	Other
Kent County				
Bowers			40 Marine 1 40 Marine 2	Gator 40
Carlisle				Gator 42
Citizens			44 Marine 1	
Clayton				Gator 45
Felton	HazMat 48			
Hartly	Decon 51			
Little Creek	Decon 3			
Magnolia			Rescue Boat 55	
Robbins		SpecOps1		
South Bowers			Marine 57	
Kent County EMS	SpecOps			
Sussex County				
Bethany Beach		Tech Rescue Trailer	Marine 70	
Blades			Marine 71	
Dagsboro			Marine 73	
Delmar	Decon Trailer			
Greenwood				Gator 78
Gumboro	FDU 79			
Indian River			80 Marine 1 80 Marine 2	
Laurel	FDU 81		Marine 81	
Lewes			82 Marine 1 82 Marine 2	
Millsboro	HazMat 83		Marine 83-1 Marine 83-2 Dive Trailer	
Millville			Marine 84	
Milton			Marine 85	Gator 85
Rehoboth Beach		Tech Rescue Truck	Marine 86	
Seaford			87-66	
Selbyville			Dive Trailer 88-14	
Memorial	FDU 89		Marine 89	Gator 89
Roxanna			Marine 90	Rehab 90
Sussex County EMS	HazMed 1 HazMat 2 Decon 2			EMS Gator MRU (mass casualty)

Division of Public Health

Public Health Preparedness Section (PHPS)

Submitted by PHPS

Beginning in 2002, Delaware has received funding through the Health Resources and Services Administration (HRSA), Bioterrorism Hospital Preparedness Program, which is now managed by the Office of the Assistant Secretary for Preparedness and Response (ASPR) within the US Department of Health and Human Services (HHS). In addition, Delaware has also received funding through the U.S Department of Homeland Security to enhance preparedness and response capabilities to a terrorist incident. Delaware continues to prepare the Division of Public Health (DPH), hospitals and supporting healthcare systems to deliver coordinated and effective care to victims of terrorism, disasters and other public health emergencies.

DPH has well-established Public Health and Emergency Medical response capabilities and continues to further enhance preparedness efforts as they pertain to Medical Surge Capacities and Capabilities (MSCC). Throughout the preparedness process, DPH has addressed supplies and equipment, education and preparedness training, exercises, evaluation and corrective actions, and the needs of at-risk populations. A summary of capabilities include:

- Development of an integrated Public Health Emergency Preparedness Resources (PEPR) System to include WebEOC (web-based incident command system), Inventory Resource Management System, and Emergency Management Mapping Applications.
- Capability to provide Delaware's Emergency Medical Services (EMS) agencies with a list of emergency medical response equipment and supplies available and tracked through the PEPR Inventory Resource Management System on an annual or as needed basis.
- Medical Resource Units (MRUs) assigned to each county and City of Wilmington EMS Agency - Trailers that contain first responder equipment including medical supplies and equipment, Personal Protective Equipment (PPE), food, and shelter for a staff of 16 for up to three days. MRUs are designed to be used as a casualty collection point at the scene of an incident or at the hospital or as a forward triage/treatment center to support public health and EMS response to a large-scale disaster.
- Increased interoperable redundant, statewide communications system to include the 800 MHz radio system, HAM Radio Systems, and satellite phones for healthcare facilities and alternate care sites.
- Implementation of the Facility Resource Emergency Database (FRED) system, a secure, web-based program for hospital medical-surge bed and resource tracking.
- Implementation of the Hospital Available Beds for Emergencies and Disasters (HAvBED) system, a secure, web-based program for reporting hospital medical-surge bed tracking to the U.S Department of Health and Human Services, Secretary's Operation Center (SOC) within four (4) hours of a request.
- Development of the Delaware's Emergency Systems for Advance Registration of Volunteer Health Professionals (ESAR-VHP) that is utilized to credential and notify

Delaware Medical Reserve Corp volunteers during emergencies. The system is known as The State Emergency Registry of Volunteers and Healthcare Personnel for Delaware or SERVDE and has been expanded to include public health employee notification and daily verification of credentials for state public health care workers. Additionally, the same system was used to enhance the Delaware Health Alert Network (DHAN). System allows individuals to register and update their information on line.

- Developed the state's Mass Fatality Plan for all hazards in cooperation with the Office of the Chief Medical Examiner, funeral and cemetery directors, and hospitals.
- Developed a Family Assistance Plan to provide services and information to victims' families during major emergencies or mass fatalities such as the Virginia Tech shooting, Katrina, or 9/11.
- Established requirements to increase hospitals' morgue capacities to be able to hold a minimum of 50 bodies using body bags and refrigerated storage.
- Established a Mobile Mortuary Response System capable of holding 144 bodies at an accident scene (i.e. plane crash), within a fixed facility, or in Delaware's Mobile Medical Facility.
- Development of Hospital Emergency Management and Disaster Plans to address, incident command, emergency management, all hazard preparedness and evacuation.
- Development of evacuation plans for hospitals, nursing homes and our at-risk populations in collaboration with the Department of Defense, National Disaster Medical System, Emergency Management Agencies, Disability Council, Emergency Medical Services, social services and the Delaware Department of Transportation.
- Identification and development of Alternate Care Sites to include six (6) Acute Care Centers (ACC) capable of providing care for a total of 400 patients, five (5) Neighborhood Emergency Help Centers, and four (4) Medical Needs Shelters.
- The purchase of a Mobile Medical Facility (MMF) to accommodate up to 50 patients with an oxygen delivery system.
- The purchase of a Portable Oxygen Generating System (POGS) capable of manufacturing medical grade oxygen to support an incident or supply oxygen to the MMF oxygen delivery system.
- Established a state cache of 210 ventilators/supplies (including pediatric capability) to provide respiratory care to patients. The ventilators could be deployed to support hospitals and alternate care sites.
- Established pharmaceutical caches to include antibiotics, antiviral medications, liquid potassium iodide (KI), and nerve agent antidotes for the public and essential workers.
- Provided nerve agent antidotes to the Emergency Medical Services (EMS) responders to treat victims of a nerve agent Mass Casualty Event.

- Established caches of prophylaxis for 10 days for hospital personnel, hospital based emergency first responders and their families (both pediatric and adult doses).
- Stockpiled Personal Protective Equipment (PPE) to include N95 masks, surgical masks, face shields, nitrile gloves, gowns, tyvek suits and Powered Air Purifying Respirators (PAPR).
- Established portable decontamination shelters at every hospital with the agreement to share equipment in the event of an emergency.
- Developed a State-level cache central storage location to provide for the rapid deployment of equipment, supplies, and pharmaceuticals during a public health event or medical emergency.
- Established portable decontamination shelters and trained decon teams at every hospital.
- Provided training on Advanced Burn Life Support and Advanced Hazmat Life Support. The Advanced Burn Life Support (ABLS) Courses provide guidelines in assessment and management of burn patients from the scene of the burn injury through the first 24 hours post-injury.
- Developed/enhanced burn bed surge capacity – 50 beds statewide 40 adults/10 pediatrics.
- Worked with Office of Emergency Medical Services and Delaware State Fire School to provide a contracted senior paramedic to provide EMS agencies with technical assistance on domestic preparedness issues.

2009-2010 H1N1 Vaccination Campaign: For the 2009-2010 H1N1 vaccination campaign the Division of Public Health through their State Health Operation Center provided the Office of Emergency Medical Services (OEMS) with vaccine and supplies for paramedics and EMT-Bs. OEMS staff, with assistance from various paramedic agencies, conducted 15 H1N1 vaccination clinics throughout the state to ensure vaccine availability to the EMS priority group. Approximately 1500 vaccinations were given. Additionally EMT-Bs and DSP Paramedics supported six H1N1 Mass Vaccination Clinics conducted in each of Delaware's counties in November and December of 2009. Delaware vaccinated over 5,873 individuals through this venue.



*Simulated burn victims
during an Advanced Burn
Life Support Class (ABLS)*

Page Left Blank Intentionally

New Castle County



89 **Advanced Life Support**



108 **Basic Life Support**



112 **Communication Center**

Page Left Blank Intentionally

New Castle County Emergency Medical Services Division

Submitted by New Castle EMS

OVERVIEW

Introduction

The mission of the New Castle County Emergency Medical Service, as an essential component of the New Castle County Government, is to provide efficient, compassionate, and high quality emergency medical care to the visitors and residents within New Castle County. Our delivery of paramedic service directly impacts the quality of life for all who reside, visit, and work in New Castle County.

The New Castle County Emergency Medical Service is a county municipal “third service” paramedic agency that is a component of the County Department of Public Safety. New Castle County EMS has the distinction of being the “First Paramedic Service in the First State.” This year, New Castle County EMS also became the first EMS agency in Delaware to achieve national accreditation from the Commission on Accreditation of Ambulance Services (CAAS).

New Castle County EMS operates in a “tiered response” configuration, and responds with basic life support (BLS) ambulances from the volunteer fire service, career fire departments, private ambulance service providers, and specialized EMS providers, such as the University of Delaware’s student operated BLS ambulance.

In 2009, New Castle County EMS deployed nine (9) paramedic units during its high call volume periods, and eight (8) paramedic units during non-peak operating hours. The expansion of a 12-hour per day “power shift” unit to 24-hour operations during 2008 was another increase in paramedic coverage of the County. A Paramedic Sergeant is on duty as the field supervisor for each shift, with an EMS Lieutenant serving as the overall shift commander. Both the Paramedic Sergeant and EMS Lieutenant are equipped as advanced life support responders.

Our personnel strives to demonstrate our commitment to our motto each and every day: “Excellence in Service.”

Further information regarding the New Castle County Paramedics is available on their web site at: www.nccde.org/ems.



A NATIONALLY ACCREDITED EMERGENCY MEDICAL SERVICE

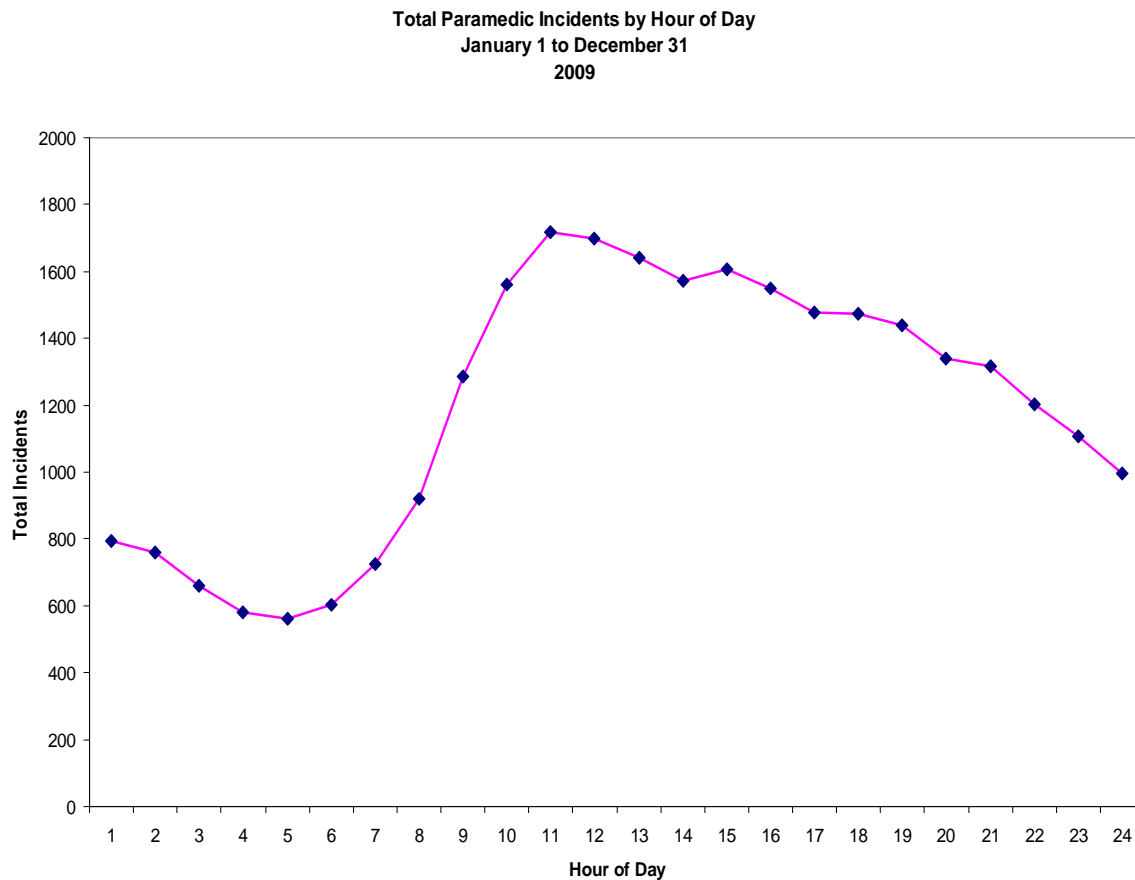


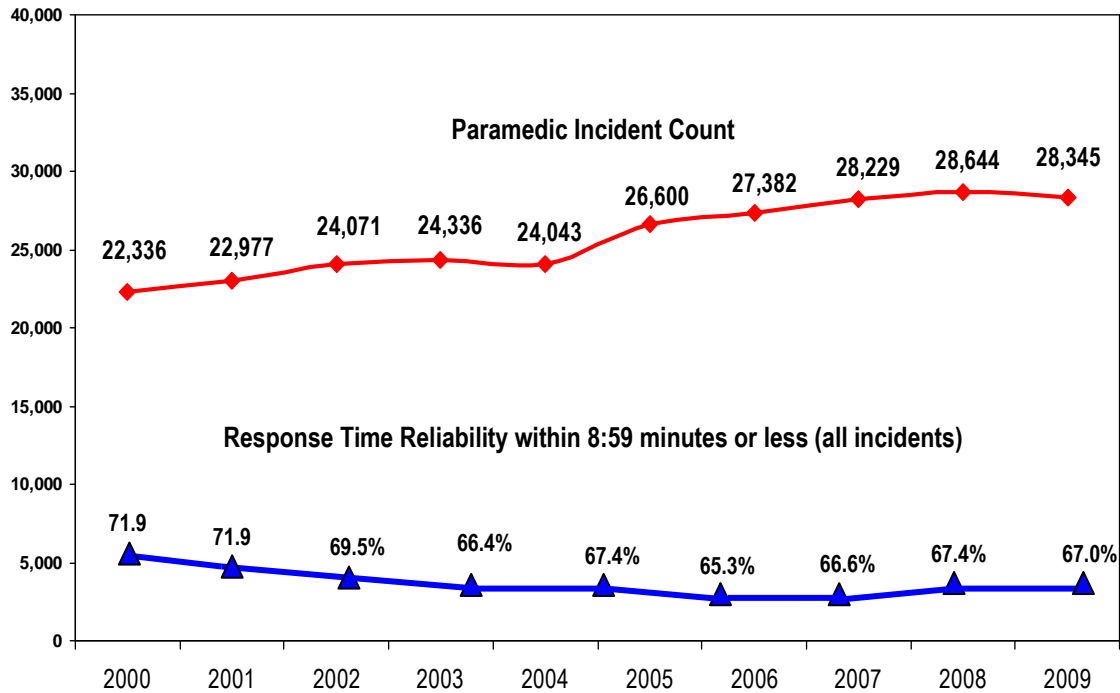
OPERATIONS

Paramedic Unit Activity

New Castle County EMS has a clearly defined call volume pattern that begins to increase at approximately 0600 hours each day, reaches a peak at approximately 1100 hours, then steadily declines until after midnight. Utilization of “power shift” units, such as Medic 9, provides an opportunity to increase paramedic staffing during high call volume times each day.

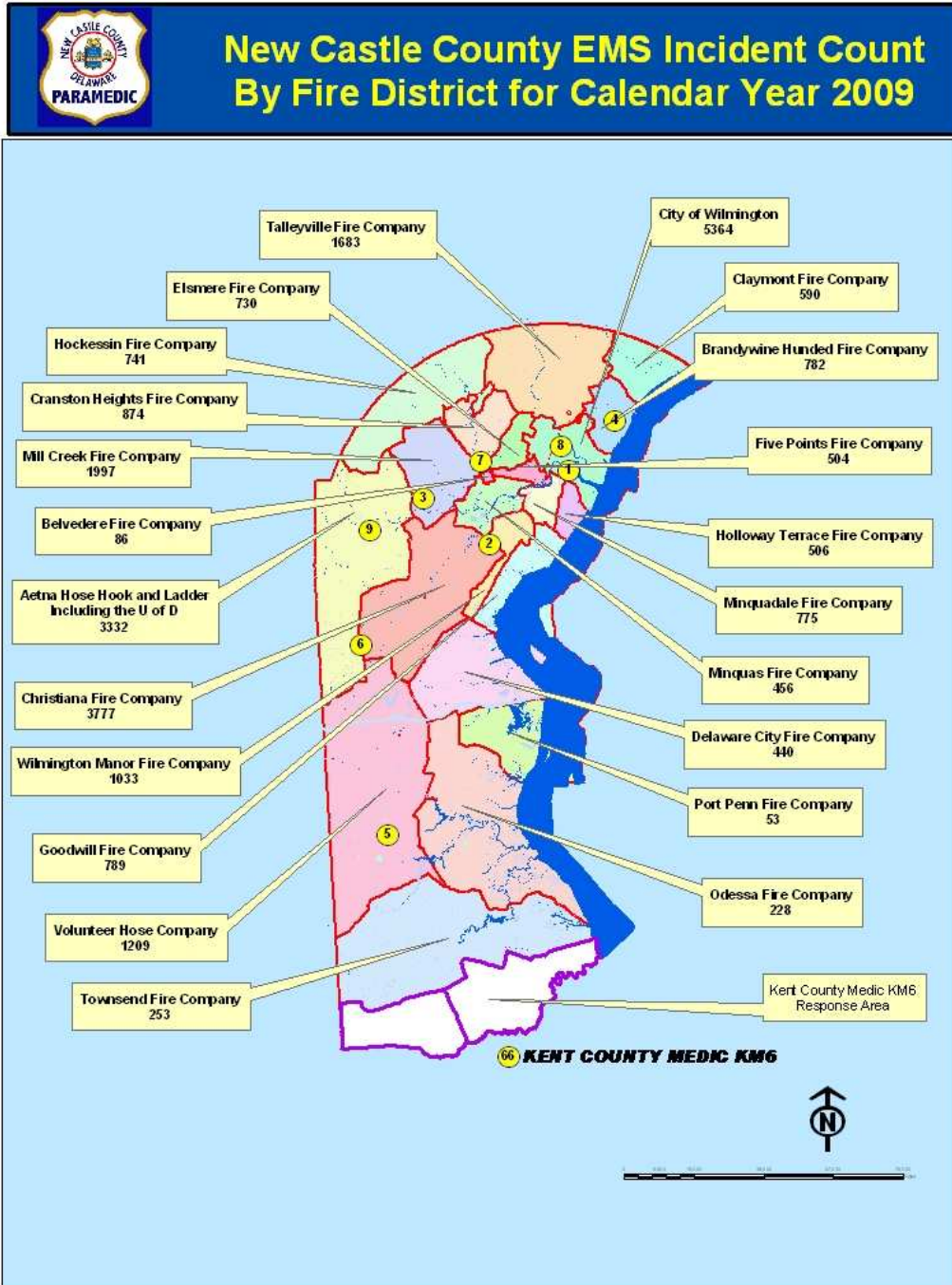
The EMS Division currently deploys eight (8) paramedic units on a 24-hour basis, seven days a week. A ninth paramedic unit is added during peak call volume periods on a “power shift” configuration (0700-1900 hours) seven days a week.





New Castle County EMS has seen a 17% increase in demand for service over the past five years. The paramedic service response time for *all* incidents (combined Charlie, Delta, Echo and stand-by events) was 67.0% reliability within 8:59 minutes or less. Response time reliability based on dispatched priority level demonstrates a faster paramedic response time for potentially life-threatening, time sensitive (“Echo” level) incidents with a response time reliability of arrival 75.0% within 8:59 minutes or less.

PARAMEDIC UNIT	2009
Medic 1 (Wilmington)	4103
Medic 2 (New Castle)	4199
Medic 3 (Newark)	3368
Medic 4 (Brandywine 100)	3569
Medic 5 (Middletown)	1801
Medic 6 (Glasgow)	3174
Medic 7 (Prices Corner)	3856
Medic 8 (Wilmington)	4393
Medic 9 (12 hour/day unit)	1925
Medic 10	70
Medic 11	3
Medic 12	3
Medic 20 (Special Ops)	38
ALS Bike Team	2
Single paramedic ALS responses	1987
TOTAL RESPONSES	32,491



This map illustrates the number of New Castle County Paramedic incidents in each fire company district during calendar year 2009. The New Castle County Paramedics work closely with the fire company basic life support ambulances on a daily basis, and provide advanced life support capabilities to the County EMS System.

Source: New Castle County Computer Aided Dispatch (CAD) System

EMS Supervisor and Staff Activity

EMS SUPERVISOR/STAFF	2009
EMS HQ Staff (Chief & Asst Chief)	132
EMS Lieutenants	554
Paramedic Sergeants	1628
TOTAL STAFF RESPONSES	2,314

ADMINISTRATIVE ACTIVITY

Public Education/Injury Prevention Programs

New Castle County EMS continued to provide a limited number of public education activities to support its delivery of emergency medical care. Unfortunately, our agency has had to reduce its outreach activity as a result of fiscal restrictions throughout state and local government. A robust public education program supports the delivery and performance of an EMS system. For instance, areas with higher rates of bystander CPR and bystander and/or law enforcement AED utilization generally have higher cardiac arrest survival rates.

Public Education Activities

CPR/AED Classes 20 courses conducted with certification of 738 persons

CPR Healthcare Provider 12 courses conducted

First Responder/CPR 5 courses conducted

First Aid Classes 6 courses conducted

Vial of Life Program 3 presentations

EMS Division Displays Staffed 5 paramedic service displays or presentations

The Emergency Medical Services Division provided an additional 6 training programs (either First Responder or CERT classes) for the New Castle County Police Academy and the County Office of Emergency Management.

ACCOMPLISHMENTS

New Castle County EMS Achieves National Accreditation

New Castle County EMS became the 129th EMS agency to achieve national accreditation through the Commission on Accreditation of Ambulance Services (CAAS). Accreditation signifies that New Castle County EMS has met the “gold standard” determined by industry experts to be essential to a modern emergency medical service. The New Castle County Paramedics verified compliance with over 100 standards covering all aspects of the agency.



New Castle County Executive Chris Coons joins Chief Lawrence Tan, Assistant Chief Richard Krett and Dr. Robert Rosenbaum at the news conference announcing the national accreditation of the New Castle County Paramedics.



Implementation of Induced Hypothermia Treatment

The New Castle County EMS was the first paramedic service in Delaware to implement the Induced Hypothermia protocol for cardiac arrest patients that are successfully revived in the field. The use of the cooling treatment is intended to preserve brain function and improve the quality of life of cardiac arrest survival patients. The implementation of this procedure places our paramedics at the cutting edge of care delivered to a patient before they ever arrive at the hospital.



Domestic Preparedness

In January 2009, New Castle County EMS had the unique opportunity to participate in the planning and execution of the medical coverage of a National Special Security Event that took place in Wilmington. The planning and execution of event medical coverage required coordination with federal, state and local law enforcement agencies, military units, HAZMAT teams, Public Health officials and other fire and EMS agencies. The medical coverage plans included dignitary protection, venue attendee medical coverage, and support to the law enforcement agencies assigned to the event. The incident served as an opportunity to evaluate communications, coordination, incident command and interoperability during an actual multi-jurisdictional event.



New Castle County EMS served as the lead EMS agency for coordination of the medical coverage for the Presidential and Vice Presidential Inauguration "Whistle Stop" Train Tour in Wilmington. The event was declared a National Special Security Event (NSSE) by the United States Secretary of Homeland Security.



Participation in National CARES Registry



The New Castle County Paramedics joined the national Cardiac Arrest Registry to Enhance Survival (CARES) program operated by the Centers for disease Control, American Heart Association and Emory University. The CARES registry facilitates uniform collection of EMS response and hospital discharge data for cardiac arrest patients, and provides a platform for standardized data analysis.

Opening of New Paramedic Station



(From left to right) State Senator Karen Peterson, Paramedic Sherri Portello, County Councilman Joseph Reda, Paramedic I/C Stacy Press-Johnson, County Executive Chris Coons and his daughter Margaret “Maggie” Coons, County Council President Paul Clark, Assistant Chief Richard Krett, Chief Lawrence Tan, Paramedic Cpl. Mark Logemann and Acting Director of Public Safety Rick Gregory cut the ribbon to mark the ceremonial opening of the new Paramedic Station No. 3.

New Castle County EMS completed the construction and opened EMS Station No. 3 on the Kirkwood Highway. EMS Station No. 3 was a combined project with the replacement of the Kirkwood Highway Library. The new paramedic station features a three bay garage area, dedicated gear and medical storage areas, expanded office space, a staff lounge, and separate men’s and women’s locker areas. It is the first dedicated EMS facility for the paramedics assigned to this station since the paramedic unit went in service in March of 1981.

Deployment of Carbon Monoxide Detectors on Paramedic Units

New Castle County EMS deployed portable carbon monoxide (CO) detectors on all paramedic units to improve the safety of the paramedics and their patients. Within 48 hours of deploying the equipment, a detector on a paramedic unit alerted responders to a hazardous condition that required the closure of a supermarket until a mechanical problem was resolved. In another circumstance, the detectors identified that carbon monoxide was the likely cause of “flu-like” symptoms of a Middletown family, which helped lead to the discovery of a blocked exhaust pipe in their home.



NCC Paramedic Receives Commendation

Paramedic First Class Christopher J. Schad of the New Castle County Emergency Medical Services Division received the Emergency Medical Services Commendation Medal from Major Peter Jaquett Chapter, of the Sons of the American Revolution. Paramedic 1/C Schad received the commendation at a dinner on May 31, 2009, from chapter President Davis L. Wright. The Emergency Medical Services Commendation Medal is presented to an individual for accomplishments or outstanding contributions in an area of emergency medical services. The award is intended to recognize paramedics who have performed an act or service beyond that normally expected.

Paramedic First Class Christopher J. Schad (left) receives the EMS Commendation Medal from chapter President Davis L. Wright of the Sons of the American Revolution.



NCC Paramedics Render Honors to Retired Lieutenant



Lt. William H. Downey
1940-2009

The New Castle County EMS Honor Guard, members of the EMS Division staff, and some retired members of the service rendered honors to retired EMS Lieutenant William H. Downey on Saturday, July 25, 2009. Lt. Downey died on July 16, 2009, at the age of 69.

Lieutenant Downey was appointed to New Castle County EMS in August of 1966. He became an emergency medical technician and later participated in a new training program that was created through a cooperative arrangement with New Castle County, the Wilmington Medical Center, Doctors for Emergency Service and the Delaware Heart Association. As one of the initial graduates of the new training program, he became one of the first paramedics in New Castle County and the state of Delaware.

Downey was promoted to the rank of lieutenant in 1977, and continued in his role as a shift supervisor until his retirement in February of 1995.

NCC Paramedics Participate in Governor's Trauma System Press Conference

Representatives from New Castle County EMS participated in the Governor's Press Conference on June 5, 2009, at Christiana Hospital to announce the significant reduction in mortality for severely injured patients in Delaware. Governor Jack Markell highlighted the study of Delaware Trauma System Registry data that documented a reduction in mortality from 45.7% for seriously injured patients in 1998 to 20.5% in 2007.



New Castle County EMS Division personnel take a moment with Delaware Governor Jack Markell and Dr. Robert Rosenbaum at the Trauma System Press Conference. From left to right: Paramedic Cpl. Ron Iocono, Lt. Mark Allston, P/Sgt. Kelli Starr-Leach, Paramedic Brianne Sullivan, Chief Lawrence Tan, Paramedic 1/C James McCarnan, Governor Jack Markell, Dr. Robert Rosenbaum.

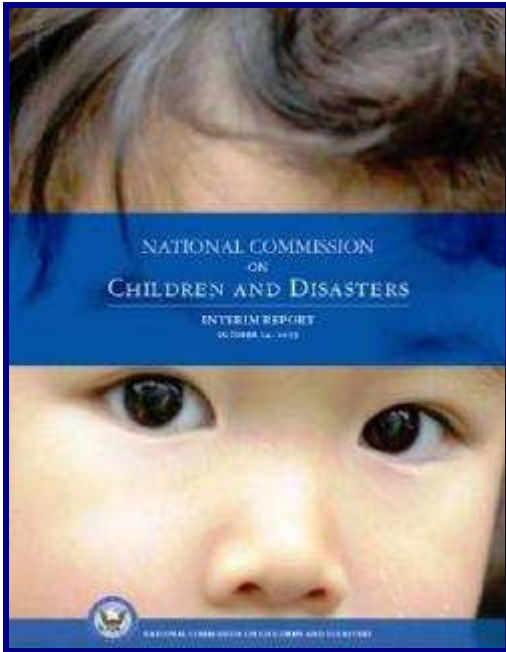
NCCo Public Safety Awards Ceremony



On May 14, 2009, County Executive Christopher Coons, Acting Director of Public Safety Colonel Rick Gregory and EMS Chief Lawrence Tan recognized forty-four (44) members of the Emergency Medical Services Division for exemplary acts in 2008 during a Department of Public Safety Awards Ceremony.

The Emergency Medical Services Division personnel honored at the Public Safety Awards Ceremony were: Assistant Chief Richard D. Krett, S/Lt. Joseph J. Dudley, Lt. Mark P. Allston, P/Sgt. Dawn E. Gulezian, P/Sgt. Kelli A. Starr-Leach, P/Cpl. David B. Aber, P/Cpl. Paul G. Bazzoli, P/Cpl. Beth A. Bratton-Heck, P/Cpl. Robin K. Brown, P/Cpl. Kevin C. Cowperthwait, P/Cpl. Christopher A. Johnson, P/Cpl. Ronald P. Iocono, P/Cpl. David L. Lawrence, P/Cpl. Michael A. McColley, P/Cpl. Richard Moerman, Jr., P/Cpl. Michael R. Nichols, P/Cpl. Daniel J. Panaro, P/Cpl. Peter T. Small, P/Cpl. Robert A. Taylor, P/Cpl. William C. Wagner, III, P/Cpl. Lorraine K. Williams, Paramedic 1/C Alana M. Kerekes, Paramedic 1/C Brittany K. Lyons, Paramedic 1/C James D. McCarnan, Paramedic 1/C Melissa L. McConnell, Paramedic 1/C Michael P. O'Shaughnessy, Paramedic 1/C Gary L. Peterson, Jr., Paramedic 1/C Christopher J. Schad, Paramedic 1/C Robert J. Sullivan, Paramedic 1/C Abigail E. Thompson, Paramedic Laura E. Hill, Paramedic Katherine A. James, Paramedic David J. McKinney, Jr., Paramedic Matthew V. Mitchell, Paramedic Laura R. Peterson, Paramedic Sherri R. Portello, Paramedic Christopher O. Rainey, Paramedic Allen C. Short, Paramedic Brianne C. Sullivan, Paramedic Elizabeth A. Thompson, Paramedic Autumn M. Tuxward, Paramedic Candidate Linda M. Brittingham, Paramedic Candidate Ashley D. Steil, Lt. James D. May (Ret.).

National Commission on Children and Disasters Release Interim Report



The National Commission on Children and Disasters released their interim report to the President and Congress in October 2009. The independent Presidential Commission is charged with conducting a comprehensive study to examine and assess the needs of children as they relate to preparation for, response to, and recovery from all hazards, including major disasters and emergencies. In 2008, Chief Lawrence Tan received a congressional appointment to the ten member Commission, which will issue a final report in October 2010.

NCC Paramedics Participate in EMS Memorial Bike Ride



On May 18, 2009, four New Castle County Paramedics joined the National EMS Memorial Bike Ride in Tinnicum, Pennsylvania and continued the journey to Roanoke, Virginia. The annual event honors those EMS providers who lost their lives while providing service to others. The ride attracted state-wide attention this year as the local EMS community recognized the tragic loss of Sussex County Paramedic Stephanie Calloway and Delaware City Firefighter/EMT Michelle Smith.



“The Delaware Office of Emergency Medical Services both congratulates and commends New Castle County EMS on their recent CAAS certification. By taking the initiative to seek accreditation by an outside authority, New Castle County EMS once again demonstrates their commitment to excellence and providing top quality EMS care. By being the first non-transport agency to receive CAAS accreditation, New Castle County sets an excellent example for other agencies, not only in Delaware, but across the country. New Castle County enters an elite group with their CAAS accreditation and it is hard-earned and well deserved.”

*Steven L. Blessing
Director
Delaware Office of Emergency Medical Services*

Our Mission is Your Life

Decade of Accomplishments:

- January 2000: New Castle County EMS establishes the “Vial of Life” program to provide critical medical and emergency notification information to paramedics, firefighters or police officers during a medical emergency. The Vial of Life program features a medicine vial that contains a medical information form that is stored in the patient’s refrigerator, which is marked by a magnet on the refrigerator door.
- 2000: New Castle County EMS initiated deployment of mobile laptop computers in paramedic units and supervisory vehicles. The laptop computers were linked to the dispatch computer and provided immediate access to incident information from the dispatch center.
- October 19, 2000: New Castle County EMS celebrated the 25th Anniversary of paramedic services in New Castle County. Members of the Emergency Medical Services Division, guests and dignitaries gathered at the DuPont Country Club to mark the occasion.
- April 1, 2001: New Castle County EMS initiated “live” use of the state EDIN system for data entry of clinical activity and electronic filing of patient care reports.
- September 11, 2001: New Castle County EMS sent six (6) paramedics and a two-person management support team with twenty-four (24) basic life support ambulances from many New Castle County volunteer fire companies and private ambulance services to the staging area for the World Trade Center incident. The New Castle County response group staged at the Meadowlands Complex in New Jersey before being released after it was determined there were no survivors.
- November 2001: New Castle County EMS received approval from the Secretary of the Department of Health and Social Services to expand the county paramedic service.
- 2002: The New Castle County Paramedics initiated their “dual fleet” deployment plan. The dual fleet configuration provides greater operational flexibility, with added resources for EMS surge capacity for rapid deployment of supplemental paramedic units during major events or emergencies.
- February 2002: New Castle County EMS initiated deployment of an eighth paramedic unit on a part-time basis, and expanded its deployment on a daily basis in November 2002.
- July 2002: New Castle County EMS establishes a Paramedic Bike Team to support medical coverage at events with large crowds, or responses in wooded or undeveloped terrain. The initial ALS Bike Team had six (6) paramedics that received EMS Cyclist certification from the International Police Mountain Bike Association (IPMBA).
- 2004: New Castle County EMS received approval from the Secretary of the Department of Health and Social Services to further expand the county paramedic service.

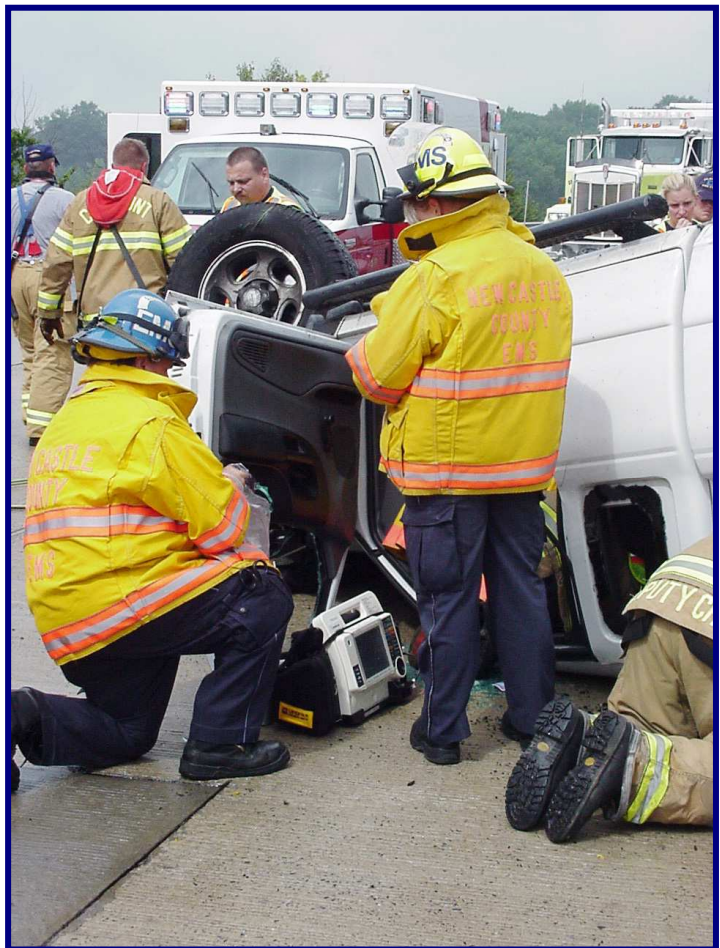
- February 24, 2004: The Emergency Medical Services Division successfully implemented a comprehensive Career Development Plan. The adoption of County Ordinance 04-013 provided a defined path for upward mobility of EMS personnel, while recognizing and compensating paramedics for increased certification, training and performance.
- December 2004: The New Castle County Paramedics initiated the purchase of soft body armor for all personnel. The issue of soft body armor to the paramedics provided a level of personal protection against potential violence, with a secondary benefit of protection against blunt trauma from motor vehicle collisions. The deployment of the armor was intended to protect the most valuable asset to the agency—the personnel.
- July 2005: New Castle County EMS deployed a new level of field supervision through the promotion of four (4) Paramedic Sergeants. The Paramedic Sergeants are ALS field supervisors that enable NCC*EMS to improve quality improvement through direct observation of patient care in the field, supplement clinical care through the availability of an additional paramedic during critical cases, and improve the paramedic service's coordination with other agencies during major or unusual incidents.
- 2005: Medic 9 was placed in service on a part-time basis.
- 2006: New Castle County commissioned an EMS study by the University of Delaware. The University of Delaware EMS Study analyzed the distribution of paramedic service demand and examined system response times from incidents that occurred during 2003-2005.
- 2006: New Castle County EMS initiated its fleet conversion to utility body trucks with the deployment of the first eight (8) response vehicles. The new trucks included a full size crew cab for ride-alongs and paramedic candidates participating in field internship rotations, additional storage space, and better temperature control for maintenance of medication and supplies carried by the paramedics.
- July 18, 2006: New Castle County EMS dedicated a new paramedic station in the Wilmington Trust Plaza in Wilmington. The leased facility provided accommodations for the return of a paramedic unit to the central portion of Wilmington.
- May 2006: New Castle County EMS received a Distinguished Unit Citation from the Wilmington Police Department for their response to the heroin overdose crisis that occurred in Wilmington in 2006.
- August 2006: New Castle County EMS hosted an EMS Bicycle Operations Course and hosted personnel from Kent County (DE) EMS and the Second Alarmers from Montgomery County, PA.
- January 10, 2007: New Castle County EMS deployed its ninth paramedic unit on a “power shift” rotation. The “power shift” schedule permits the deployment of paramedics during high call volume periods.
- May 2007: New Castle County EMS moved into the new Paul J. Sweeney County Public Safety Headquarters facility. The new facility included new administrative offices for the

Emergency Medical Services Division, the County emergency operations center (EOC) and 911 communications center.

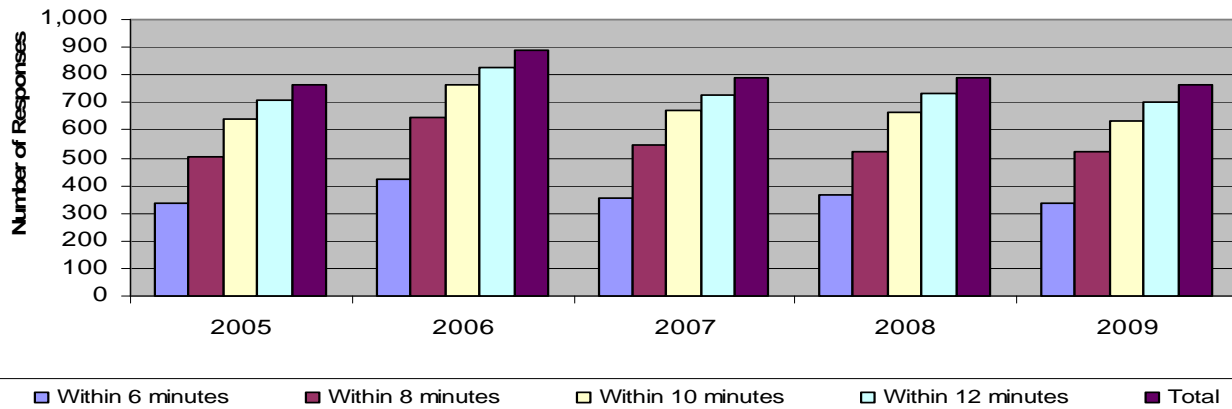
- May 2007: The New Castle County EMS Honor Guard was unveiled at the annual NCC EMS Graduation and Appointment Ceremony. The EMS Honor guard officially represents the New Castle County Emergency Medical Service at parades, sporting events and public safety funerals with other agency honor guards.
- July 2007: New Castle County EMS completed implementation of drug facilitated intubation protocols within the paramedic service.
- July 2008: New Castle County EMS expanded its tactical emergency medical support (TEMS) program by adding two additional paramedics to the special operations assignment. The tactical medics, sometimes referred to as “SWAT Medics” provide medical support to law enforcement special weapons and tactics teams during high risk warrant services, hostage situations, barricaded subjects or dignitary protection assignments.
- September 22, 2008: New Castle County EMS expands the deployment of “Medic 8” from a 12-hour per day “power shift” rotation to 24-hour operations.
- January 17, 2009: The New Castle County Paramedics were the lead agency responsible for the medical coverage of the Presidential and Vice-Presidential Inauguration “Whistle Stop” Train Tour event held in Wilmington. The train tour and Wilmington rally was declared a National Special Security Event (NSSE) which required coordination with federal, state and local law enforcement agencies, military units, HAZMAT teams, Public Health officials and fire and basic life support services.
- March 30, 2009: New Castle County EMS became the first paramedic service in Delaware to fully implement the Induced Hypothermia Protocol for cardiac arrest patients that are successfully revived in the field. The use of the cooling treatment is intended to preserve brain function and improve the quality of life of cardiac arrest survival patients.
- April 8, 2009: New Castle County EMS initiated enrollment in the national Cardiac Arrest Registry to Enhance Survival (CARES) program. The CARES program is a cardiac arrest surveillance registry that unifies all of the data elements from EMS agencies, hospitals and dispatch computers for a single cardiac arrest event. CARES is a collaborative effort of the Centers for Disease Control and Prevention (CDC), the American Heart Association (AHA) and the Emory University Department of Emergency Medicine.
- August 21, 2009: New Castle County EMS formally dedicated the newly constructed New Castle County Paramedic Station No. 3 on Kirkwood Highway.
- October 2, 2009: The New Castle County Paramedics deployed portable carbon monoxide (CO) detectors on all paramedic units to improve the safety of the paramedics and their patients. Within 48 hours of deploying the safety equipment, a detector alerted responders to a hazardous condition that required the closure of a supermarket. In

another instance, the detectors alerted paramedics that carbon monoxide was the apparent cause of “flu-like” symptoms of a family in Middletown.

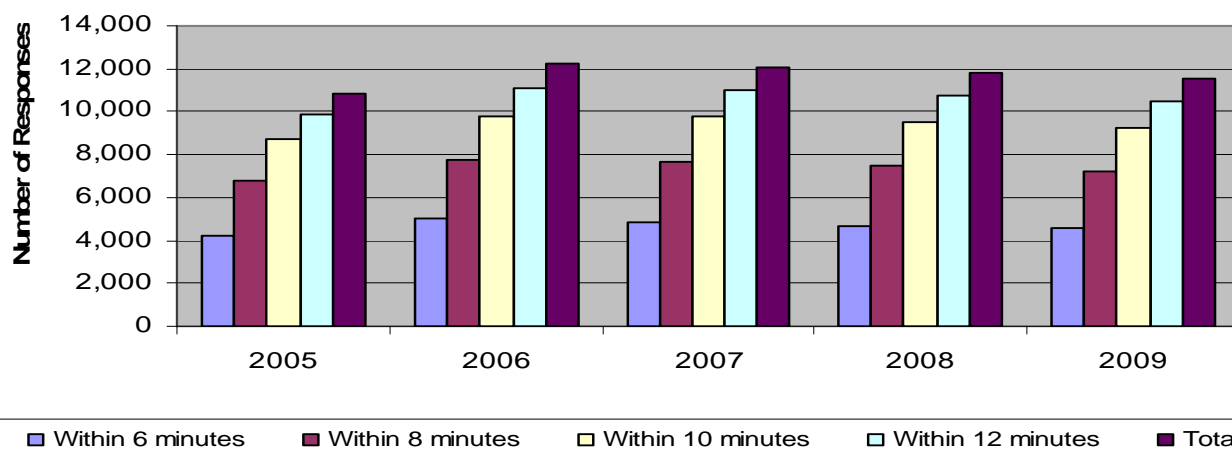
- December 2009: The New Castle County Paramedics promoted two additional personnel to the rank of Paramedic Sergeant. The promotions added two more field supervisors to the operations of the Emergency Medical Services Division.
- December 2009: On the 35th Anniversary of their delivery of paramedic service, the New Castle County Paramedics became the 129th EMS agency to achieve national accreditation through the Commission on Accreditation of Ambulance Services (CAAS). The first paramedic service in Delaware is now the first nationally accredited emergency medical service in the state.



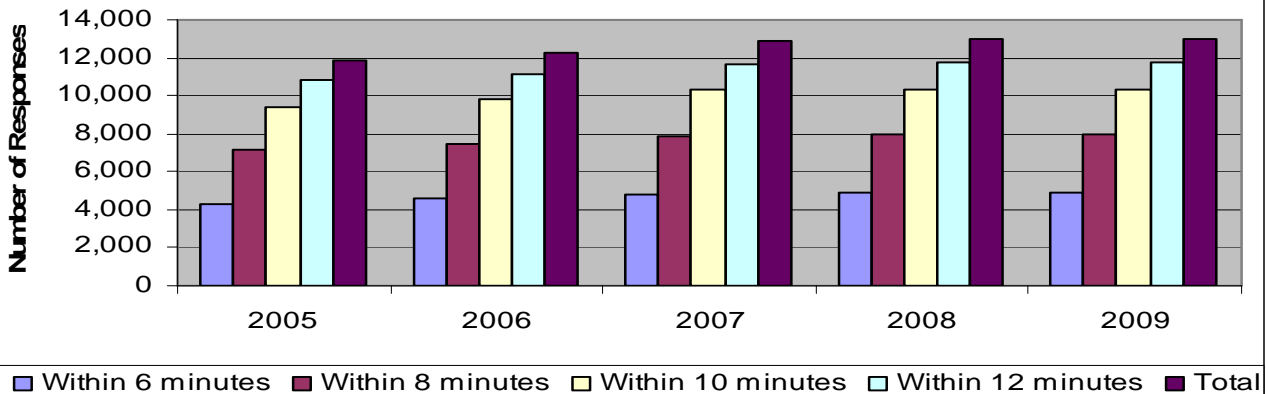
Echo Level Response, NCC EMS



Delta Level Response, NCC EMS

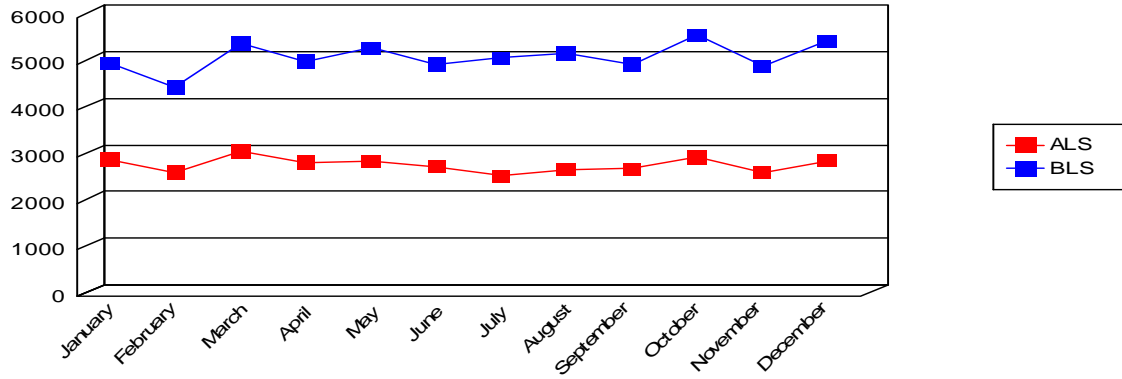


Charlie Level Response, NCC EMS



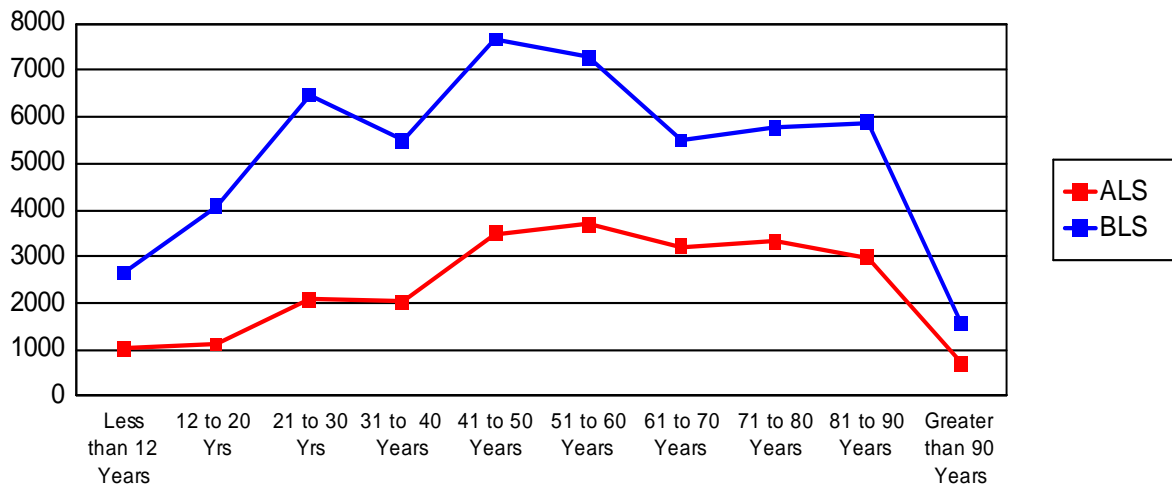
ALS/BLS Incidents by Month-2009

New Castle County

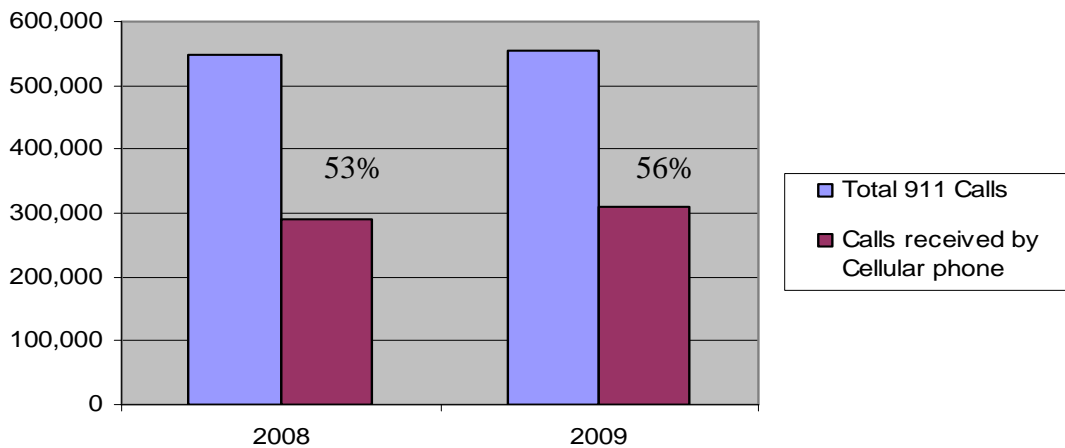


ALS and BLS Patient Age Comparison 2009

New Castle County

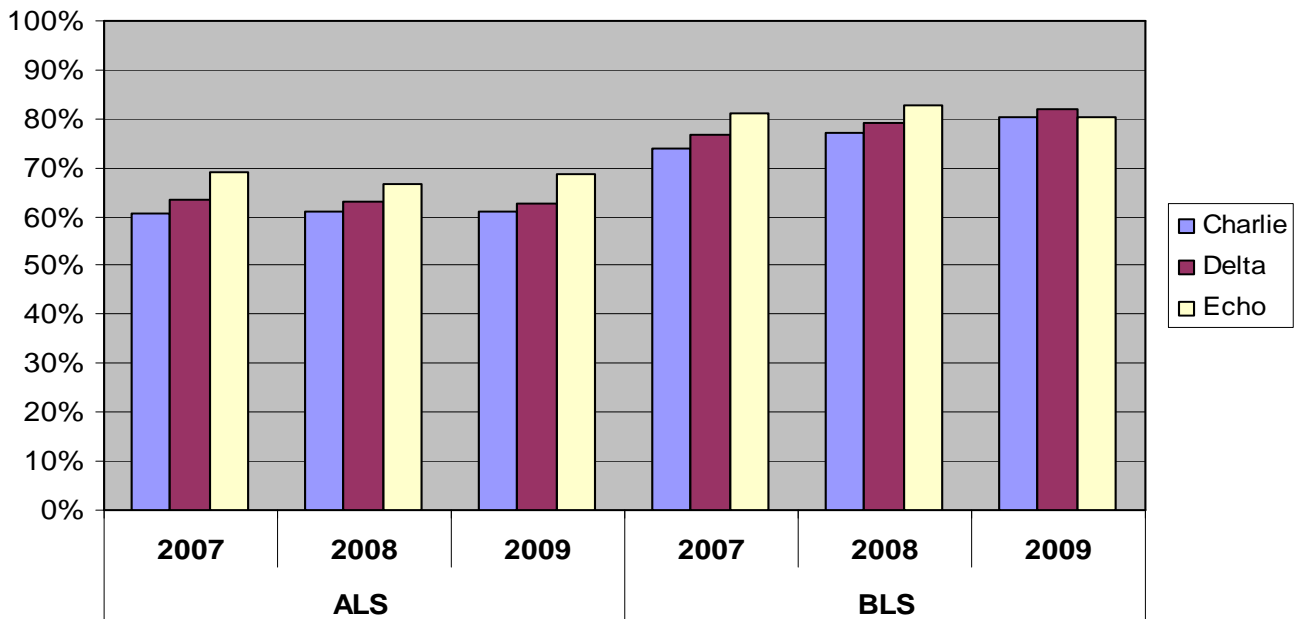


New Castle County Delaware 911 Calls



Total 911 calls for New Castle County includes calls to New Castle County 911, Wilmington PD, Newark PD, and University of Delaware. Data submitted by E 9-1-1 Board.

**Percentage When New Castle County ALS/BLS Arrived On-Scene in
8 Minutes or Less on Delta/Echo/Charlie Level Incidents-2009**



2009 New Castle County BLS Scratch Report

Submitted by New Castle County Dispatch

Station	Total	Scratches	Scratch Percent
Aetna Hose Hook & Ladder	7159	59	.82%
Belvedere Fire Co.	210	9	4.29%
Brandywine Hundred Fire Co.	1933	11	.57%
Christiana Fire Co.	7780	0	.00%
Claymont Fire Company	2579	3	.12%
Cranston Heights Fire Co.	1940	0	.00%
Delaware City Fire Company	1197	1	.08%
Elsmere Fire Co.	1374	3	.22%
Five Points Fire Company	1094	1	.09%
Goodwill Fire Company	1273	4	.31%
Hockessin Fire Co.	1467	2	.14%
Holloway Terrace Fire Co.	1159	22	1.90%
MillCreek Fire Company	3436	4	.12%
Minquadale Fire Company	1596	5	.31%
Minquas Fire Co.	1387	0	.00%
Odessa Fire Co.	620	27	4.35%
Port Penn Vol. Fire Co.	210	0	.00%
Talleyville Fire Co.	3036	3	.10%
Townsend Fire Co.	585	38	6.50%
Volunteer Hose Company	2349	79	3.39%
Wilmington Manor Fire Co.	1908	1	.05%
Total	44292	272	.61%

New Castle County

Basic Life Support (BLS)

Submitted by various BLS agencies in New Castle County

New Castle County is comprised of 21 Volunteer Fire Companies and one paid fire department, The City of Wilmington. Every fire company in New Castle County operates at least one basic life support unit and many fire companies operate multiple BLS units. There are two additional BLS units, owned by the county, that are used as “loaner” ambulances; these ambulances are placed into service when a fire company’s ambulance is placed out-of-service for any period of time.

Many volunteer fire companies in New Castle County are transiting from a predominantly volunteer system to a combination system, which accommodates both volunteer and paid personnel. During a time when volunteerism is on a decline, fire companies must find alternative ways to provide a safe, quick, and professional service, while struggling with these personnel issues. BLS units need to be on-scene within an average of 8 minutes of most calls. This type of time demand as well as increased call volume has lead many volunteer companies to transition to paid personnel that work various shifts. The combination departments have shown to be a great improvement for many New Castle County Companies.

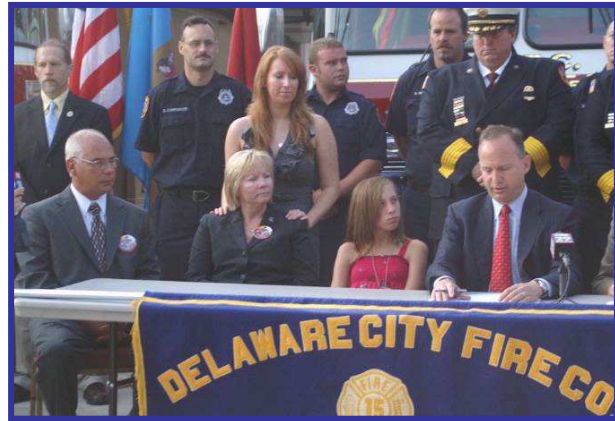
ACCOMPLISHMENTS AND NOTABLE EVENTS

Delaware City Fire Company participates in Holiday Safe Driving Forum:

Members of the Delaware City Fire Company joined other Fire Service Leaders in attending the "Holiday Safe Driving Forum" hosted by Congressman Michael N. Castle at the Christiana Hospital. Congressman Castle has been a leading advocate in raising awareness about safe driving and the Graduated Driver Licensing (GDL) Program in the State of Delaware. Now along with Representative Tim Bishop (D-NY), Congressman Castle has introduced the "The Safe Teen and Novice Driver Uniform Protection Act of 2009". Know as the STANDUP Act, this law would establish minimum requirements for State's GDL Laws, similar to what the State of Delaware already has in place. DVFA President Kevin Wilson was one of several to speak at the forum, applauding the efforts of Congressman Castle and the other advocates in attendance and thanked Congressman Castle for his continued support of the Delaware Fire Service. Attending on behalf of Delaware City were President Wally Poppe, 2nd Vice President Mike McMichael and Past President Jasper Lakey.

Delaware City travels to the National Fire Academy:

Members of the Delaware City Fire Company and Ladies Auxiliary traveled to the National Fire Academy for the National Fallen Firefighters Foundation Memorial Service on Sunday, October 4, 2009. Past Presidents Jasper Lakey and Mike McMichael arrived in Emmitsburg on Friday night as Past President Lakey served as the family escort for the weekend. For 2 hours, tributes were announced by each state for 112 fallen heroes. Each recipient received a United States flag, a rose and a medal of honor. Once the ceremony was over, our members were able to view the different bricks that were place in memory of Michelle Newton-Smith.



Michelle Smith's Law:

Governor Jack Markell signed into Law House Bill #204, known as the Michelle Smith's Law. Under the legislation, any person who is found to have recklessly caused the death of an on-duty paramedic, emergency medical technician, fire marshal or fire police officer could be charged with "murder in the first degree" and receive capital punishment. People killing on-duty law enforcement officers, corrections employees and firefighters were already eligible for the death penalty prior to the enactment of the new law. Representative Earl Jaques (D – Glasgow) sponsored the legislation after finding out that Paramedics, EMT's and others were not covered under the existing law. Governor Markell was able to sign House Bill #204 into law on live television in front of Delaware City's fire station with Michelle's parents, Harvey and Joanne Newton, her daughter Emily and family friend Emily Simpson in attendance. There were over 30 Fire Company and Ladies Auxiliary members in attendance, along with many State and County Fire Officials. State Senator Bruce Ennis, Representative Richard Cathcart and State Senator Bethany Hall-Long, Delaware City Mayor John Martin and Town Manger Dan Tjaden were all in attendance.

Fire Points Fire Company Special Assignment with the US Secret Service: On Tuesday, October 27, 2009, crews assisted the Secret Service during a visit to the old General Motors Plant by Vice President Joe Biden. The Vice President was in town to announce the plant being purchased and reopened by the Fisker Automotive Company. The principal product for the Boxwood plant will be a family-oriented sedan that's being developed under the name Project Nina. During the visit, B17, Medic 2 and 174 were assigned to the plant for any incidents that might have occurred. The DECON team from the County Special Operations was also on standby. Chief Hayes and Deputy Chief Testa were assigned to the control room to coordinate fire and EMS services during the event. The visit lasted about three hours and no services were needed.

January 17, 2009, members of Station 17 in conjunction with the New Castle County Special Operations Team, were called in to stand-by during the President Elects visit to Delaware. Under the direction of Task Force 2 command Deputy Chief Testa, Haz-Mat 17 and Rescue 17 were stationed at the Claymont train station with a full complement of decontamination and rescue

tools. After President Elect Obama passed the station, Rescue 17 responded to a second staging area in the city of Wilmington while Haz-Mat 17 was assigned a staging area near Christiana Hospital. During this very cold and uneventful day, assistance was provided to Five Points by Claymont, Belvedere, and Mill Creek fire companies.



Goodwill Fire Company dedicates new addition:

On Monday, December 7, 2009, the GWFC along with the Trustees of New Castle Commons held a building dedication ceremony. This ceremony marked the completion of new, state-of-the-art, administration building addition which will allow the fire company to effectively manage the day-to-day operations of their EMS and fire activities. The Trustees of New Castle Commons, who built the original fire station in 1958, graciously assisted the GWFC with the construction of this addition. December 7th marked the 102nd year of service as the Good-Will Fire Company. The officers and members of the GWFC would like to thank the Trustees for their long-standing support of the fire company.

Woodside Farms Creamery Sponsors Benefit for Hockessin Fire Company:

The Woodside Farm Creamery hosted a day long fundraiser for the Hockessin Fire Company on the Creamery grounds on August 15th. Fire equipment was on display, chicken dinners were served by the Ladies Auxiliary and Cow Pie Bingo was conducted.



Port Penn Fire Company:

On Sunday October 11th, several members of the PPVFC stood by at Frightland for the 1st Annual 5K Mud Run Race to raise money for cancer. The fire company staffed A-29, TSU 29, Rescue 29, 29-0 and Argo 29 during the event. There were a total of 5 patients seen with three transported from the event. The fire company would like to thank Middletown VFC for Ladder 27 to fly the flag, the Delaware City Fire Co. for an ambulance & 15-0. We like to also thank the Odessa Fire Co. who covered with an ambulance while the others were transporting patients. The Port Penn Fire Co. also had several members and family members take place in the mud run. We are proud of everyone involved who made it such a success for a worthwhile cause.

***Volunteer Hose of Middletown:***

September, 15 2009: The Volunteer Hose Company of Middletown would like to thank Bruster's Ice Cream of Middletown for hosting the annual ice cream eating contest. This contest was between the Middletown Police Department and the Firefighters of Volunteer Hose Company. We would like to congratulate the police department on their victory for the second year in a row. Thanks for all supporters that came out to cheer on their favorite team.

Millcreek Fire Company:

Wake up Delaware has been recognized as the only initiative of its kind in the United States, where all fire stations in a state join together at the same time on a given day to distribute free smoke detectors and batteries to residents. Nearly 40,000 detectors and 25,000 batteries have been made available to residents...all free of charge...as a result of this program. Wake Up Delaware is funded by a federal grant, as part of the Assistance to Firefighters ("Fire Act") grant program, sponsored by FEMA and the U.S. Fire Administration.

New Castle County is facing increased challenges and mandates that affect all aspects of the Basic Life Support service. With these challenges come new problems that need to be addressed and New Castle County is handling these issues with a willingness to improve the overall system. This willingness to create a better system is demonstrated every time an ambulance company in New Castle County is dispatched to an EMS call and that company provides a safe, quick, and professional service to the public.

Communication Center

New Castle County

Submitted by New Castle County Dispatch

The New Castle County 9-1-1 Emergency Center receives 9-1-1 calls through a variety of phone exchanges and numerous cell towers throughout New Castle County. The total number of 9-1-1 calls processed in year 2009 was 427,731. Another 87,093 non-emergency calls were also processed by our Emergency Call Operators. The Center dispatched or processed a total of 115,749 fire/medical incidents and 356,846 police incidents in year 2009. New Castle County Emergency Communication Center handled over 52% of the 789, 660 9-1-1 calls in the State of Delaware for 2009.

The New Castle County Emergency Communications Center was recognized as an Accredited Center of Excellence in Emergency Medical Dispatch by the National Academy of Emergency Medical Dispatch in October, 2002 as the 87th agency in the world accredited; and then, re-accredited in October, 2005 and November 5, 2008 until 2011. Additionally, we utilize the National Academy of Emergency Fire Dispatch protocols and currently working toward our national accreditation.

The New Castle County Emergency Communications Center operates 24-hours a day on a year-round basis. We provide Fire/EMS Communications to the City of Wilmington, twenty-one New Castle County Volunteer Fire Companies, six fire brigades, and the New Castle County Paramedics. Additionally, we provide Police Communications service to seven police agencies within New Castle County. The Center is staffed by twenty-seven full and part-time Emergency Call



Operators, twenty-three New Castle County Police Communications personnel, twenty Delaware State Police Communications personnel, twenty-six full-time Fire/Medical Communications personnel, and an administrative staff of four personnel.

This agency also operates a state-of-the-art mobile communications van that is capable of taking over all operations, with the exception of phones, within the 9-1-1 Center at a moments notice. The New Castle County Emergency Communications Center operates within the New Castle County Public Safety Building.

Kent County



115 Advanced Life Support



127 Basic Life Support



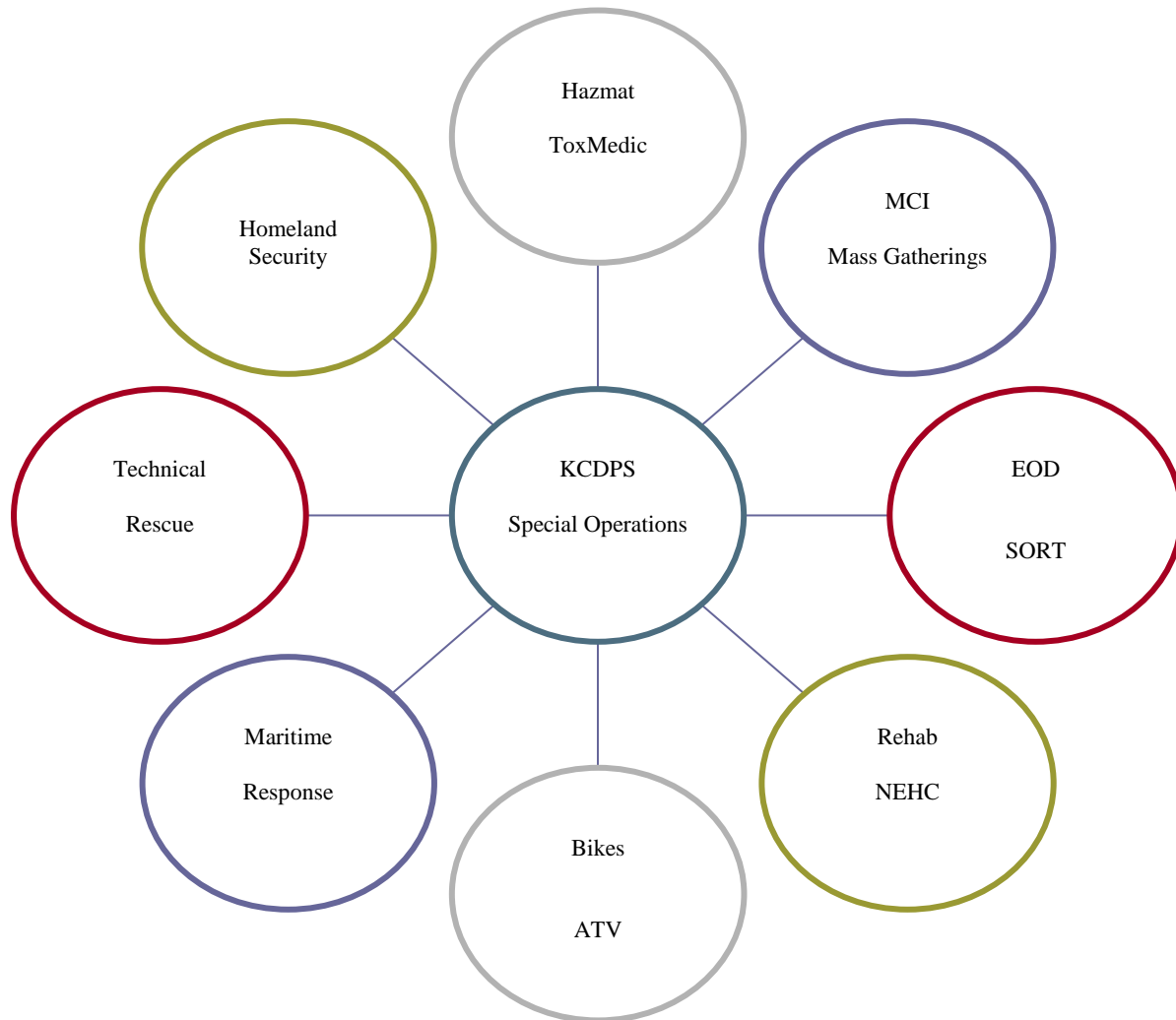
129 Communication Center

Page Left Blank Intentionally

Kent County Dept of Public Safety

Advanced Life Support (ALS)

Submitted by Kent County EMS



Overview

Special Operations encompasses the response categories of Mass Casualty Incident (MCI), Hazardous Materials Incidents (Hazmat), Technical Rescue Operations (confined space, high angle, trench, collapse), Explosive Ordnance and Tactical EMS Support (EOD/SORT), Fire Ground Support (Rehab), All-Terrain Medical Response (Bikes & Medic-Gator), Maritime Operations, and Weapons of Mass destruction (WMD/CBRN) preparedness and response.

In keeping with the National trends, Special Operations activity within the Department continues to gain a more “global” or “all-hazards” capability in that equipment, materials, and personnel are utilized for multiple response strategies with key personnel with more highly focused training serving as response leaders.

This section of the report will update the current status of each of these response categories as a result of equipment procurement, training of personnel, and activity over the past year. Further, an outline of future needs and initiatives will be presented.



Mass Casualty Incident (MCI)

Response: The Department MCI Plan identifies staged levels of response based upon assessed patient populations. The key operational point identified is early activation of the MCI response. The plan allows for any component of the system to “make the call”, therefore, Department Dispatchers, Medics, Supervisors, or Administration can all initiate the MCI Response Plan. The MCI Response Plan has been presented to and endorsed by the Kent County Fire Chiefs with regard to the automatic response levels. The Kent County MCI Plan is consistent with other County and State MCI Plans.

Equipment: Each Medic Unit carries Triage Kits and limited additional supplies to be used for patient care. The Supervisor’s unit (KM5) is equipped with an MCI Command Kit to facilitate orderly control of the medical branch of the incident. All units have updated contact lists for local and regional medical facilities. Critical data is kept both in hard copy and electronically in the unit MDT. The Special Operations trailer is equipped to support triage and treatment of up to 50 patients, has its own electrical power supply, and has additional components of the Treatment Area Command Kit, TVI Shelter with air heater unit, Chemical Personal Protection Kits (PPE), Nerve Agent Antidotes Kits (NAAKs), and Cyanide Antidote Kits. The Decon Support trailer may also be deployed for further sheltering and electrical supply. The Mobile Command Post may be deployed for extended operations.

Training: All Medics are trained in Simple Triage and Rapid Treatment (START) Triage and this skill is supported by monthly “Triage Days” during which all patients are identified with appropriate triage tags. Medics continue to train on the MCI Plan which gives Medics guidelines for determining the level of response necessary and emphasizes the need for the first-on-scene Medic crew to initiate the MCI response. “Trailer Day” drills continue in which all Medics are

annually familiarized with the response support units and complete hands-on practical evolutions with the equipment.

Activity: There was one MCI response which involved a special needs day care with a CO issue. Units were pre-deployed as required in support of Mass Gathering events. Components of the plan were exercised in preparation for the DAFB Air Show.

Needs and Initiatives:

1. Continued refresher training through Triage Days and con-eds will maintain current training levels. *These have been added to the 2010 Training Schedule*
2. Further training needs to be accomplished such that all Medics are competent in establishing a Medical Sector at an MCI (Triage, Treatment, Transport). *During training sessions Medics who are less experienced with MCI Command roles are tasked with accomplishing such an assignment. Supervisors are being included in functional and full-scale exercises in compliance with the NIMS.*
3. Dedicated towing vehicles should be established such that no on-duty Medic Unit is diverted from direct response to the scene in order to transport a support unit. *The goal is to expand the vehicle fleet to provide for 2 spare units.*
4. Extended Operation and Re-call of personnel capability needs to be demonstrated through practical exercise. *Medics are issued personal pagers for Call-back and OT notification.*

Mass Gatherings

Response: The Department prepares for several Mass Gathering activities each year. Notably, the NASCAR races at Dover Downs, the Delaware State Fair, the Bike-to-the-Bay, and the Amish Country Bike Tour present the venues for the largest populations. There are occasionally other events (VIP appearances, DAFB Air Show, Chicken Festival, etc.) which also require Mass Gathering preparations. Operations center on pre-positioning assets and adding staff to cover the particular event. Response may be limited to assigning a Bike Team to the venue or expanded to establishing an entire communications center with dozens of support units on site.

Equipment: The All-Terrain Medical Response trailer now houses the Bikes and the Medic-Gator. This trailer facilitates the transport of, and provides an operational base for these units. All trailer units can be pre-deployed in support of larger events. These units include the Special Operations, Decon Support, and Medical Resource Unit (MRU) trailers. Additional ALS gear sets have been established to support each of these units. The Mobile Command Post is a self-contained communications center which can be deployed to any site as needed.

Training: A number of Medics are trained to operate the Bikes and a lesser number trained to operate the Gator (the primary means of covering large venues). All Medics are introduced to towing a support trailer.

Activity: The Gator and/or Bikes were used to cover spring and Fall NASCAR races, Safe Summer Day, and the Governor's Fall Festival. The Spec Ops trailer was pre-deployed for the State Fair.

Needs & Initiatives:

1. Additional medics have completed International Police Mountain Bike Association (IPMBA) training.
2. A standardized reporting form has been established to address operational needs when requested to cover a large event.

Maritime Response

Response: Kent County's primary response jurisdiction extends well into the Delaware Bay and includes a busy anchorage. Currently the Medics are taken to vessels via VFD Rescue Boats. Occasionally the Coast Guard assists with aviation support. DSP has acquired a new helicopter which will increase the availability of aviation support over marine environments.

Equipment: There is no specialized equipment currently in service to support maritime response.

Training: The Little Creek FD has a Company specific training available to Medics.

Activity: There has been no maritime response activity.

Needs & Initiatives:

1. As soon as the DSP helicopter is available for training, Medics should be involved with rescue hoist operations.
2. A training program will be established and a schedule determined.

Hazardous Materials Response (Hazmat)

Response: The Department's response continues to be one component of a multi-agency response plan. Supported primarily and in depth by the Little Creek VFD, the group response for hazmat incidents is currently initiated by a responding fire line officer. The mission of the Hazmat Group remains primarily the provision of decontamination services. Following a request by Department of natural Resources and Environmental Control (DNREC) and the support from the Department Chief, an expansion of the mission has been to develop a limited number of personnel capable of assisting DNREC in entry operations as a medical component of the entry team.

Equipment: The State of Delaware Hazardous Materials Decontamination trailer, tow vehicle, and the Decon Support trailer remain housed at Little Creek VFD.

Training: Regular training sessions are held on the third Tuesday night each month (with few exceptions). As new equipment arrives it is introduced through these regular training sessions. Joint exercises have been conducted with DNREC, the 31st Civil Support Team (CST), and Dover Air force Base (DAFB). These joint sessions have met with great approval from all concerned and more are planned for the future. Currently there are ten Medics trained or awaiting training to the Hazmat Technician level which qualifies them to assist the entry team.

Activity: There were two incidents in 2009 which required the full response of our resources. The unit(s) participated in displays 2 times. The units were pre-deployed in support of the

NASCAR races. The units were deployed at the Whistle-stop event in Wilmington, the Governor's Inauguration, and the return of Delaware troops from Iraq.

Needs & Initiatives:

1. Regular training nights will continue. Joint training evolutions with other response agencies should be enhanced. *The 3rd Tuesday each month has been established as a regular training day for Medics, as well as the evening session at Little Creek.*
2. As more medics attain certification the potential increases that an on-duty crew will make a quick response and possibly be back-filled by a re-call of off-duty personnel.

Technical Rescue

Response: The Kent County Technical Rescue Team is spearheaded by the Cheswold FD with support from several Kent County FDs. Currently there are 10 Medics training with the team. Technical Rescue encompasses trench, collapse, confined space, high angle, and swift water rescue operations along with urban search & rescue (USAR). The primary response area is Kent County with assisting teams in New Castle and Sussex counties. The "Second Due" area for the Kent team extends to the Chesapeake Bay including Caroline, Talbot, and Queen Anne counties in Maryland (dual response with Anne Arundel).

Equipment: The team equipment is based at Cheswold FD and Hartly FD and is comprised of a custom heavy rescue unit with additional equipment contained in a support trailer. All rescue operations equipment is compatible with the other two county's equipment. Each team member has a "go bag" with some personalized gear. Some specialized medical equipment has been placed in service. Hartly FD has placed in service a "Light & Air" unit which has been included with the initial response of the Team. This unit also tows the Support Trailer for the Team. Additionally, equipment and supplies are being acquired towards the establishment of a mobile "Base Camp" to address the logistical needs of an extended operation.

Training: The majority of active team members are trained to the Technician level for Trench and Collapse rescue; all are Operations level for all disciplines. Several team members have completed large animal rescue training. Three members achieved Pro-Board certification in Rope Rescue.

Activity: There was no emergency activity for the team in 2009.

Needs & Initiatives: As the team increases in number and equipment inventory, continuing training will have to occur. Exercises testing extended operations and the establishment of a "base camp" will begin in 2010. The team is working towards Urban Search and Rescue (USAR) / Pro-Board certification.

Explosive Ordnance Disposal (EOD)/ Special Operations Response Team (SORT) Response

Response: Medic Units are routinely dispatched to support EOD/ SORT operations. Bomb Technicians are medically monitored before and after entry evolutions. Medics stand by in safe zones for certain law enforcement operations. Tactical Medics operate as integral members of a Tactical Team.

Equipment: Specialized equipment has been obtained for direct support of SWAT Medics. Tactical Body Armor, rescue litters, radio microphone equipment have been added to the inventory. Regular duty body armor and ballistic helmets are standard uniform for all medics.

Training: Three medics completed Basic and Advanced Tactical EMS training and are embedded with the STAR (tactical) Team in Smyrna. All current Kent County Paramedics received refresher briefings regarding EOD operations as part of the 2-year refresher cycle. Medics routinely receive refresher training regarding the assessment and treatment of blast and burn injuries.

Activity: Monthly training with the STAR (tactical) Team continues. There was more than 50 hours of training activity. There were 5 missions with a total time commitment of 30 hours.

Needs & Initiatives:

1. SWAT Medics are alerted by alpha pager and/or the STAR phone tree process.
2. Additional equipment is being obtained to coincide with the expansion of this program.



Fire Ground Support

Response: Medics are routinely dispatched to multiple alarm working fires and many “occupied high density residential” locations. Many times this response is merely a stand-by, however it is not uncommon for the Medics to assist in rehab services or conduct medical assessment and monitoring of firefighters.

Equipment: Primary Medic units have no specific equipment for fire ground support operations. All of the support trailers have sheltering, heat, and lighting capability. The Special Operations unit “TANGO-1” is in-service and offers a “bridge” in support equipment between the Medic

Unit and the support trailers. The Special Operations trailer has additional IV supplies, cots, sheltering, and heating capability.

Training: No specific training is indicated. Medics are to be capable of deploying shelters and other support equipment.

Activity: Call volume varies from year to year. Some Fire Departments have added Medics to the initial dispatch for known working building fires or for residential complexes. Weather continues to be a factor during the extremes of heat and cold.

Needs & Initiatives:

1. The establishment of the “Power Unit” has served to help cover this issue during the daytime hours.

All-Terrain Medical Response (ATMR)

Response: The Bikes and Medic-Gator have thus far been pre-deployed to special events. While the units are capable of emergency response, the application of these assets remains as support to in-progress incidents. The units are housed in the ATMR trailer which requires transport to the scene.



Equipment: The ATMR trailer has been a tremendous improvement in storage and ease of transport of the units. All response vehicles (Crown Vics excluded) are equipped to tow the trailer. A solar battery charging system was installed for the Gator.

Training: The Bike Team continues as before with several Medics trained to ride the units. Gator training has been completed and all medics are familiar with Gator unit operation.

Activity: The Bikes and Gator covered both the Spring and Fall NASCAR races. The Bikes supported the Kent County portion of the National EMS Memorial Bike Ride. The Gator was used at Safe Summer Day, the Governor's Fall Festival, and the Amish Country Bike Tour.

Needs & Initiatives:

1. Additional training on Gator operation should be conducted to increase the number of qualified drivers. Gator driving should be extended to all Department employees and an Memorandum of Understanding should be established to allow VFD personnel to operate the unit under extreme circumstances. *Training is scheduled periodically. VFD personnel can be utilized as needed, much in the way they assist in transferring Medic Units from the scene when all Medics are committed to patient care.*
2. Further training on trailer operations should be conducted and extended to all Department employees to increase the number of qualified drivers. *Training is scheduled periodically.*

Weapons of Mass Destruction (WMD) / Terrorism Preparedness

Response: General ideology suggests that response units will most likely not know ahead of time that an incident is an act of terrorism or involves WMD. Therefore, all responders must be capable of adapting operational modalities in response to information as it is acquired. Specialized equipment will be utilized as the situation warrants.

Equipment: Personal "Escape Ensemble Kits" are available on each unit which includes chemical protective suits and air purifying respirators. Ballistic helmets, goggles, and NIJ Level II body armor are now part of the standard uniform. Tox-Boxes are in-service which provide NAAKs (nerve agent antidote kits) for medics and patients and additional pharmaceuticals for those medics who can function under the ToxMedic Protocols. Four of the five support trailers in the department carry additional WMD response equipment and supplies. The First-On-Scene response guidelines include a "Bomb Response" checklist and related reference materials. Each Medic Unit is equipped with a radiological response kit and a GammaRAE detector for early warning of a radiological event. Carbon Monoxide detectors have been added to the Medic standard equipment. Two RAD 57 carboxyhemoglobin detectors have been put in service and proves a valuable tool in triage of multiple carbon monoxide exposure patients.

Training: "Trailer Days" are included in the annual con-ed schedule in which all Medics practice with the response support units and complete hands-on practical evolutions with the equipment. A hands-on training for radiological response has been added. Advanced Hazmat Life Support (AHLS) courses are made available to all Medics as they are scheduled.

Activity: There was no identified activity in response to WMD / Terrorism. There were several CO responses in which the arrival of the Medics (and the CO detectors) was the first indication of potential poisoning. There was one MCI response to a CO issue which involved a special needs day care.

Needs & Initiatives:

1. Refresher training in the use of PPE and “escape kits” needs to be conducted. Each Medic should demonstrate proper use of this equipment. *Incorporated into “Trailer Day” con-ed sessions.*
2. Awareness and Operational level concepts and procedures for WMD response should be revisited through in-service review and printed distributions. *This is accomplished through periodical publications.*

Conclusion

Situational Assessment: Incidents involving some form of Special Operations response continue to occur at a manageable frequency, however primary Medic Units are being committed to these incidents for longer periods. Several annual event venues present significant challenges to the department’s operations. The department has continued response roles both locally and regionally. The possibility of a disaster, natural or man-made, is as present as ever.

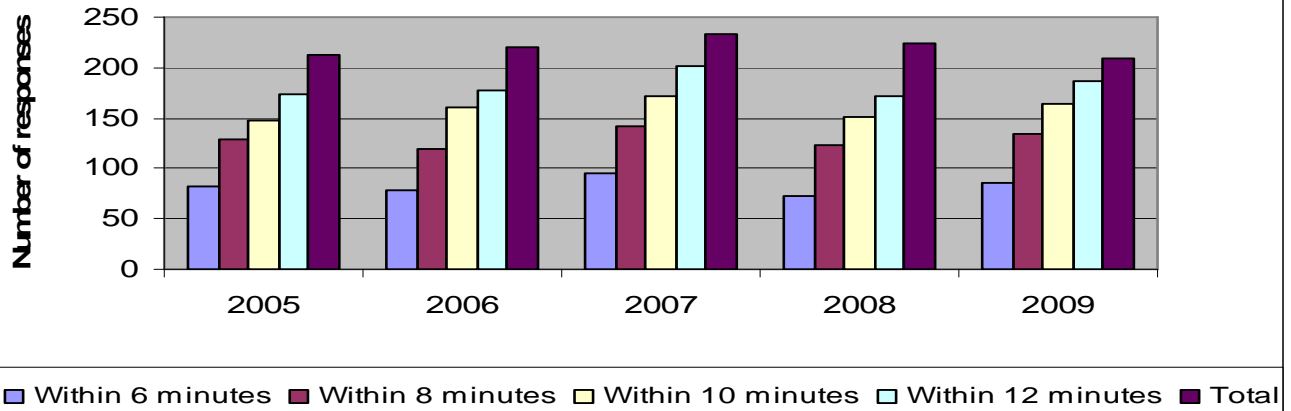
The establishment of TANGO-1, a multi-purpose response unit has enhanced the response capacity of the Department. This unit is not currently staffed around the clock.

Vulnerability: Training and exercise has increased awareness and response capability as compared to previous years, thus reducing the vulnerability of the individual responder. Geographically Kent County remains central to several major metropolitan areas of national significance. Complacency as a result of low utility presents the greatest controllable risk factor. A comprehensive Kent County threat/vulnerability assessment needs to be conducted.

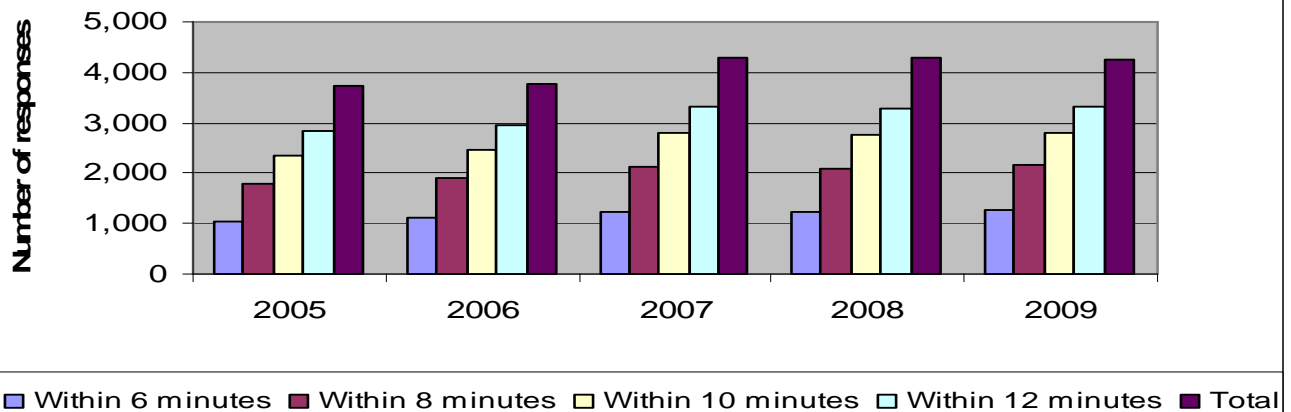
Capability: The establishment of a “Special Operations” designation as part of an employee incentive program has swelled the number of medics intent on participating in some level of Special Operations. Providing training opportunities to support this interest is challenging. Resources continue to expand and develop to provide flexible response modalities and increased capability. A Statewide and Regional capability goal needs to be established.



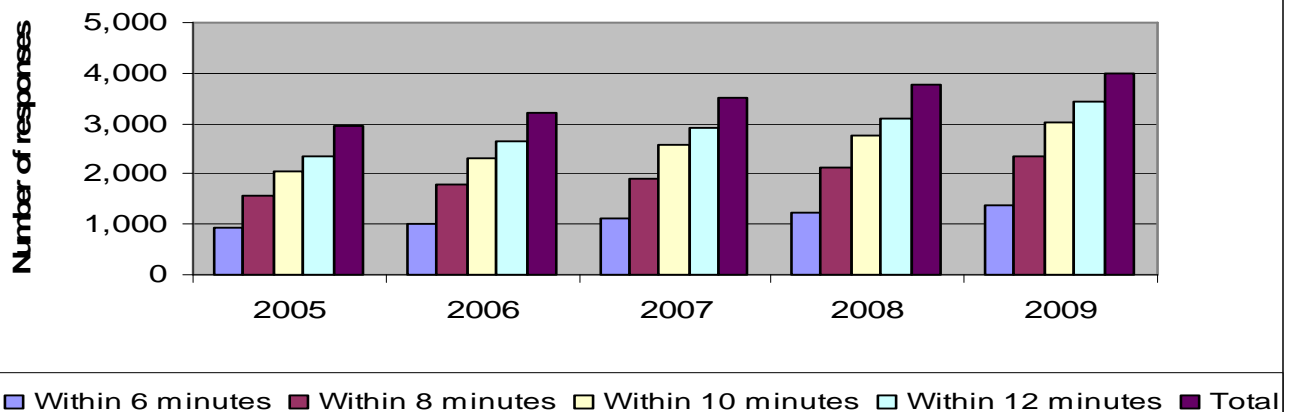
Echo Level Response, Kent County EMS



Delta Level Response, Kent County EMS

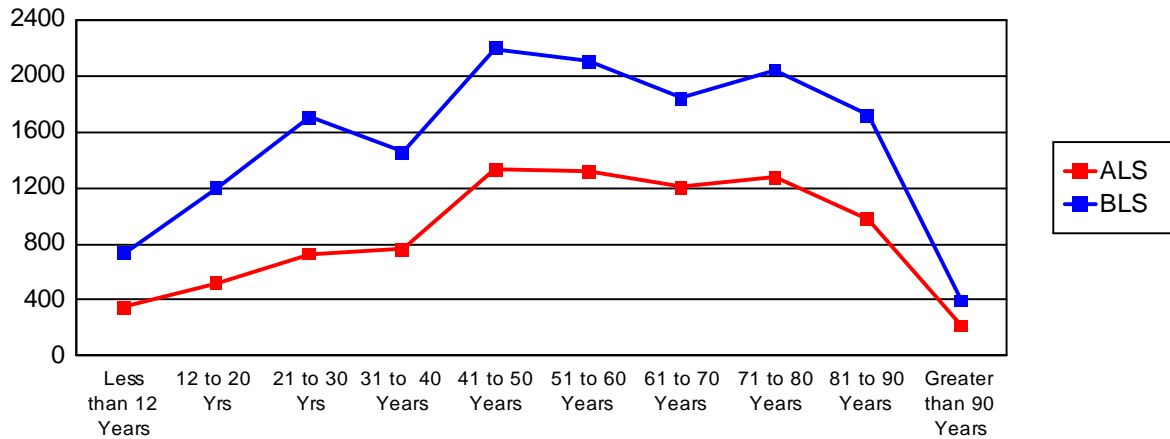


Charlie Level Response, Kent County EMS



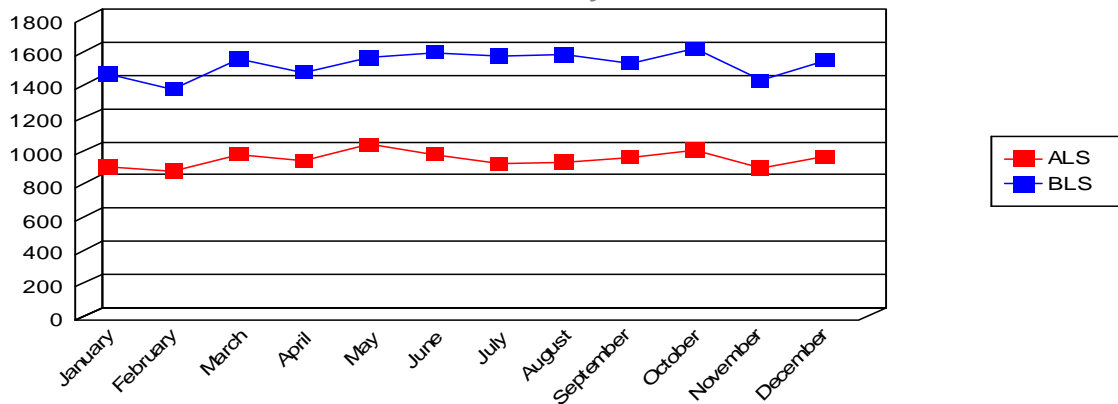
ALS and BLS Patient Age Comparison 2009

Kent County

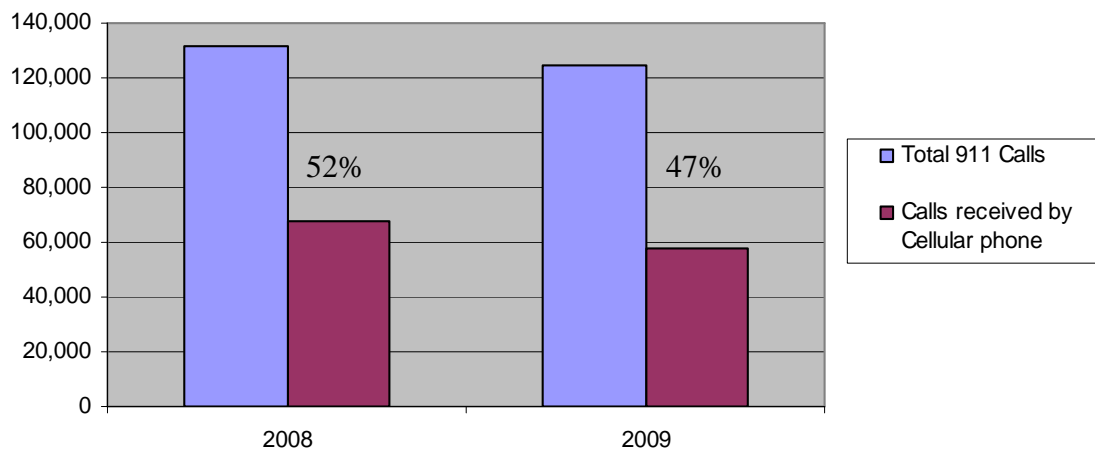


ALS/BLS Incidents by Month-2009

Kent County

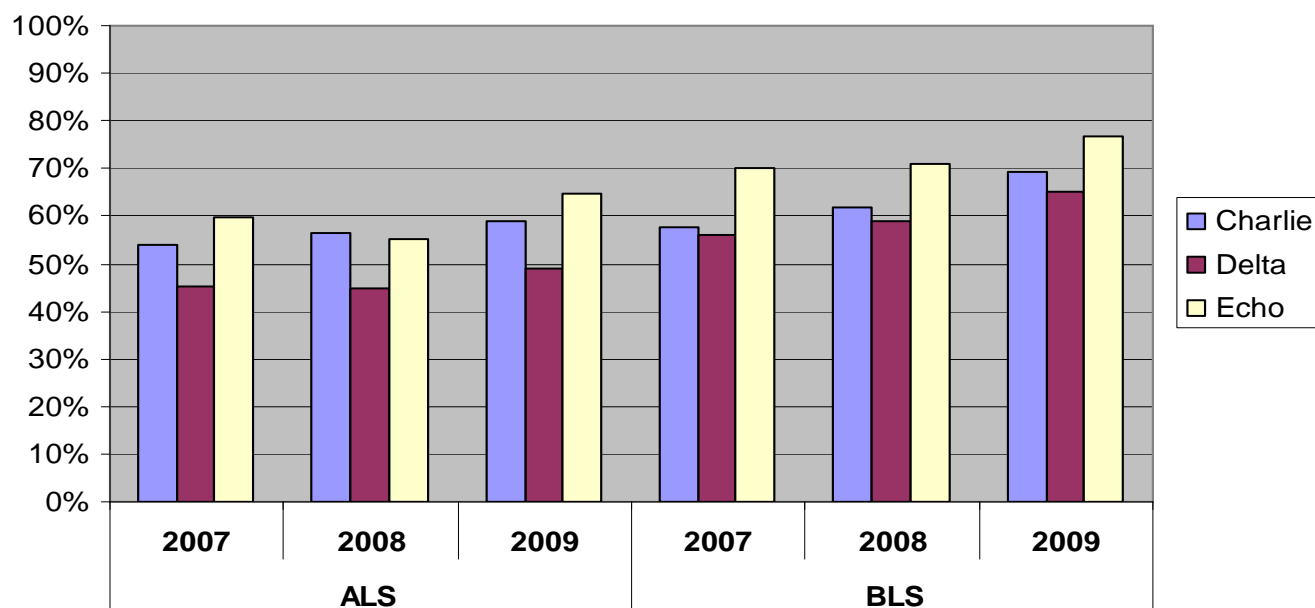


Kent County Delaware 911 Calls



Total 911 calls for Kent County includes calls to Kent County 911 and Dover PD. Data Submitted by E 9-1-1 Board

Percentage When Kent County ALS/BLS Arrived On-Scene in 8 Minutes or Less on Delta/Echo/Charlie Level Incidents-2009



2009 Kent County BLS Scratch Report

Submitted by Kent County Dispatch

Station	Total	Scratches	Scratch Percent
Bowers Sta. 40	337	14	4.2%
Camden-Wyoming Sta. 41	2369	92	3.9%
Carlisle Sta. 42	2839	68	2.4%
Cheswold Sta. 43	1667	42	2.5%
Felton Sta. 48	1043	26	2.5%
Federica Sta. 49	416	3	0.7%
Harrington Sta. 50	1652	19	1.2%
Hartly Sta. 51	885	2	0.2%
Leipsic Sta. 53	186	38	20.4%
Magnolia Sta. 55	811	41	5.1%
Marydel Sta. 56	384	64	16.7%
Dover Air Force Base Sta. 58	96	0	0.0%
PrimeCare Sta. 63	5802	0	0.0%
Smyrna Amer. Legion Sta. 64	2743	123	4.5%
Total	21230	532	2.51%

Kent County

Basic Life Support (BLS)

Submitted by various BLS agencies within Kent County

Kent County is comprised of 18 Volunteer Fire Companies and one volunteer ambulance company, the Smyrna American Legion. The Smyrna American Legion's ambulance responds on BLS runs within the Citizen's Hose fire district. Other Fire Districts, which do not operate BLS services in Kent County, are: Farmington, Houston, Little Creek, South Bowers, and Robbins Hose. Mutual Aid agreements exist with boarding fire companies to supply ambulance service to these districts or contracts with paid ambulance companies.

ACCOMPLISHMENTS AND NOTABLE EVENTS

Cheswold Fire Company provides ambulance stand-by for Vice President Biden:

On September 30, 2009, Cheswold provided an ambulance for Vice President Biden's visit to Delaware to welcome home troops from overseas. The Vice President joined about 800 Delaware residents in welcoming home 110 soldiers from the Delaware Army National Guard's 261st Signal Brigade including his son, Delaware Attorney General Beau Biden, who is a captain in the Army National Guard.



DVFA Participates in the 2009 Inaugural Parade:

On January 20, 2009 the Officers and Members of the Delaware Volunteer Firefighter's Association (DVFA) including the Citizens' Hose Company Band, had the privilege to participate in the 2009 Presidential Inaugural parade honoring President Barack Obama and Vice President Joe Biden, a DVFA Past President Emeritus. 400 members from Delaware fire companies and Ladies Auxiliaries braved the extreme cold and wind to participate in this once in a lifetime event. DVFA President Warren Jones led our members who proudly showed their colors, parading in their dress uniforms and displaying company flags along the nearly 4-mile route through the Nation's Capital.

DVFA Annual Conference:

The 15th annual Delaware Volunteer Firefighter's Association (DVFA) conference was held at the Sheraton Dover hotel and conference center in September of 2009. During the first three days of the conference, Emergency Medical Services classes were held. Classes surpassed anticipated attendance levels as more than 300 persons engaged in the EMS continuing education phases of the conference.

Delaware State Fair:

Every year in July the Harrington fairgrounds is home to the annual Delaware State Fair. During this ten-day event, Harrington Fire Company and other local Fire/EMS departments spend their

days caring for the large number of tourists who may get sick or injured while visiting the attractions. Dispersed throughout the fairgrounds are EMTs and Paramedics that will respond and treat visitors on a daily basis. The Harrington Fire Company also does stand-bys during some of the larger, more populated, main events, such as the monster truck show and the demolition derby.

Dover International Speedway:

Twice a year the Dover International Speedway is home to NASCAR stock car racing. This event draws in over 150,000 spectators to Kent County. With this large number of NASCAR fans, brings an increase in EMS and Fire responses. Along with the increased responses, EMS and fire personnel from around the state take additional training to provide emergency services during the race. Temporary treatment and triage areas, set-up to treat NASCAR fans and ambulances are on a stand-by basis if anyone needs to be transported directly to the hospital. On an average, 250-300 people are treated during these four day events.



Cheswold EMS saves dog:

On July 9, 2009 the Cheswold Volunteer Fire Company was dispatched to a working house fire. When the fire company arrived, the house was fully involved. The firefighters entered the house in an attempt to put the fire out. One firefighter stumbled upon something that took him by surprise. It was one of the family's pet dogs. The animal was in obvious distress and near death. The firefighter quickly scooped him up and ran towards the outside of the house. Quickly the dog was handed over to our EMS crew who was standing by outside. Because of the quick thinking of our EMS crew and the PET mask that are carried on both of our BLS units, the animal was resuscitated and made a complete recovery. It took the EMT's several minutes of performing CPR on the animal but because they refused to give up this pet was the only thing salvaged from the fire. The family was extremely grateful to the entire department. They stated that the valuables that were lost in the fire would be missed but saving there family pet did shine a light on the situation. Sadly there were 2 other dogs in the house that did not make it.

There have been many accomplishments in Kent County, as well as some setbacks. Several companies have ordered new ambulances, hired paid personnel, and financially been able to cover all BLS expenses. There are still a large number of companies struggling to meet the financial burdens of running a BLS service. Most BLS agencies find it difficult to fund training for personnel, purchase supplies and in general keep up with the changes in society. Retention and new acquisition of personnel is also a huge problem both with volunteer and paid personnel. Kent County BLS is moving forward to meet the needs of the community with all the advancements that were made in 2009 and will continue to improve in 2010 and beyond.

Communication Center

Kent County

Submitted by Kent County Dispatch

The Kent County Emergency Communications Center receives 9-1-1 calls through a variety of phone exchanges through Kent County, Northern Sussex County and Southern New Castle County. The total number of 9-1-1 calls processed in year 2009 was 90,798. Another 74,820 non-emergency calls were also processed by our dispatchers. The Center dispatched or processed 21,230 medical incidents and 5754 fire incidents in year 2009.

The Kent County Emergency Communications Center is recognized as an Accredited Center of Excellence in Emergency Medical and Fire Dispatch by the National Academy of Emergency Dispatch.

The Kent County Emergency Communications Center operates 24 hours a day on a year round basis. We provide Fire/EMS Communications to 18 Volunteer Fire Companies, 2 EMS Companies and the Kent County Paramedics. The Center is staffed with 20 Fire/EMS dispatchers.

One of the biggest challenges Kent County has twice a year is the NASCAR Race. This event brings over 150,000 people to our county. The race creates a city within a city. Starting on Wednesday of the race week Kent County provided trained dispatchers to answer and dispatch EMS/Fire calls to the emergency responders that are working the event.

Our agency also operated a state of art mobile communications vehicle that is capable of taking over all operations, with exception of phones, within the 9-1-1 Center at a moments notice.

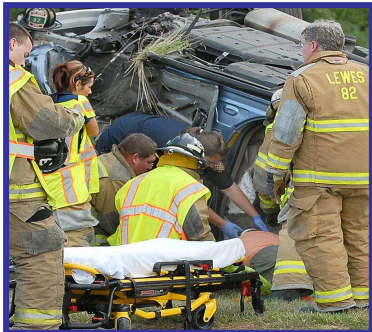


Page Left Blank Intentionally

Sussex County



133 **Advanced Life Support**



146 **Basic Life Support**



150 **Communication Center**

Page Left Blank Intentionally

Sussex County
Emergency Medical Services
Caring People, Quality Service
Submitted by Sussex County EMS

Overview

In 2009, Sussex County EMS (SCEMS) celebrated eighteen years of providing Advanced Life Support (ALS) Service to the residents of, and visitors to, our community. We provide paramedic service to an area of nearly 1,000 square miles, including all of Sussex County and a portion of Kent County (primarily Milford), using eight specially designed ALS rapid response vehicles, each staffed by two paramedics, and overseen by two District Supervisors. During the summer tourist season, an additional paramedic unit is placed into service to assist with the high volume of calls, particularly in the beach areas. Our paramedic staff is supported by administrative, clerical, technical support, and information systems personnel to ensure a constant state of readiness throughout the year. We work closely with fire department-based Basic Life Support (BLS) services, volunteer ambulance services, local hospitals, state and local police, and private aeromedical services, as well as taking part in the Delaware Statewide Paramedic Program.

“Caring People, Quality Service” is not only our slogan, but our commitment to the people of Delaware and to each of our patients.

Mission Statement

Sussex County EMS is:

A nationally recognized leader in mobile health care services committed to improving your quality of life.

We will accomplish this through:

- Quality, compassionate patient care
- Continuous quality improvement
- Proactive planning
- Innovative technologies and procedures
- The full spectrum of emergency medical services
- Comprehensive education and training for our personnel and the public

We Value:

- Kindness
- Professionalism in action and in attitude
- Respect, dignity & politeness
- A supportive, productive work environment
- Continuing education for personal and professional growth
- Honesty, trust, integrity in all our actions
- Individual creativity, initiative, and responsibility
- Fiscal responsibility
- Public trust and support

SUSSEX COUNTY EMS ACCOMPLISHMENTS AND INITIATIVES – 2009

Personnel

- **Recruiting and Retention:** We reduced the number of paramedic vacancies to one (as of December 31, 2009). This effort included actively recruiting Nationally Registered Paramedics from out of state including displays at the EMS Today Conference in Baltimore, MD and the Pittsburgh EMS Expo. We also participated in the Delaware Technical and Community College paramedic training program. Three students graduated from the program in 2009, and three are enrolled in the 2009-2010 class.



- **Competition Team:** Our competition team competed and earned a Silver Medal for their performance in the “2009 JEMS Games.” This competition was held on March 26-27, 2009, during the EMS Today Conference in Baltimore, Maryland, an annual educational conference and exposition for pre-hospital care providers. The team included Paramedics Michael Carunchio, Jeff Cox, Stuart Hensley, and Jill Wix. This year’s competition included fourteen teams from thirteen different agencies across the United States. During the competition, paramedic teams were judged on their performance and speed during mock patient care situations and scenarios. Paramedics were evaluated on their ability to identify, assess, and provide simulated treatments to mock victims during a chaotic and sometimes hazardous environment. In previous years, our team has earned both silver and gold medals in the JEMS Games and placed third in an international EMS competition in Israel sponsored by Magen David Adom Israel.



- **EMS Memorial Bike Ride:** On May 18, the EMS Memorial Bike Ride traveled the length of Delaware with stops in New Castle and Kent County and ending the day with a memorial ceremony on the Circle in Georgetown. The event consisted of over 100 bicycle riders riding

from Tarrytown, NY to Roanoke, VA in honor of EMS providers that died in the line of duty during 2008. Along with other EMS providers from Delaware, three Sussex County paramedics completed the ride in memory of Stephanie Callaway and Michelle Smith, both killed in the line of duty in 2008.



Facilities and Equipment

- Medic 102:** The construction of Medic 102 Station in Laurel was completed, becoming the first of its kind in Sussex County, a station built specifically for Emergency Medical Services (EMS). The station is strategically placed to allow rapid access to Route 13 to provide care to the citizens and visitors of Laurel, Delmar, and Blades as well as backup to the Seaford area. The station was designed to fit into the surrounding residential community and includes features designed to sustain 24 hours a day, 7 days a week ALS coverage. The two bay garage houses the primary medic unit and a reserve truck. The station was designed with green technologies including solar electrical panels, energy rated windows and appliances, extra wall insulation, energy efficient and natural lighting, and a tankless hot water heater.



- Cinderberry Complex:** Working with the County engineering department, and with the financial support of the Delaware Emergency Management Agency and the U.S. Department of Homeland Security, we completed installation of an emergency generator at the Cinderberry complex in Georgetown. This complex is home to Station 108, the Technical Services offices, and the Logistics warehouse. This enhancement will allow us to remain fully functional during power outages, maintaining operations, as well as command and control functions, during severe weather events such as snow storms and severe thunderstorms. Security fencing and burglar alarms were also installed to enhance security at the complex.

- **Headquarters Facility:** During 2009, we completed the installation of emergency power generator at our headquarters building, partially financed through Homeland Security funding.
- **Stephanie L. Callaway Memorial Station (Station 104):** On June 17, 2008, Sussex County Paramedic Stephanie Callaway was killed in the line of duty in an ambulance crash while transporting a patient to the hospital. To commemorate the one year anniversary of this tragedy, Stephanie's favorite station, Station 104, was renamed and dedicated in her honor as the Stephanie L. Callaway Memorial Station. Earlier on the same day, the EMS Room in the Emergency Department of Beebe Medical Center was also dedicated in her honor.



- **Envision Cam:** Over the last year, we've begun to test a new product called Envision Cam in our response vehicles. The device, installed in the cab of the vehicle in the area of the rear view mirror, has a forward and backward facing camera that automatically records any sentinel events that occur, such as excessive braking, rapid acceleration or deceleration, or any collision. The device can also be activated by the driver of the vehicle if the need should arise. It is our hope that by studying these events we'll be able to improve the safety of our medics while driving in our vehicles.
- **New Inventory System:** Our logistics center has instituted a new software program as a solution for the management of our station and medical supplies.

Patient Care

- **Induced Hypothermia:** In June, we instituted the Induced Hypothermia Standing Order for patients with return of spontaneous circulation (ROSC) after a suffering a cardiac arrest. Implementation of the program required coordination with six separate receiving facilities, most of which were not inducing hypothermia in their post-cardiac arrest patients prior to this program. Working through all of the hospitals' internal organizational structure took some time but ultimately, by the close of 2009, five of the six receiving hospitals were able to maintain the hypothermic state that was induced in the field. We are closely following patient outcomes since the inception of this protocol.
- **STEMI Care:** The outcome for patients suffering ST segment elevation myocardial infarctions (STEMI) has been shown in several studies to be improved if they can be rapidly identified and transported to a facility capable of performing Percutaneous Coronary

Interventions (PCI). During 2009, formal relationships were enhanced with Beebe Medical Center (BMC) and Peninsula Regional Medical Center (PRMC) to monitor the quality of STEMI care to the population of Sussex County. In October, Nanticoke Memorial Hospital (NMH) began to offer PCI for emergent STEMI patients 24 hours a day, seven days a week, adding a much needed resource to western and central Sussex County. Nanticoke has joined Beebe and PRMC in providing feedback on the cardiac care provided by our paramedics in an effort to improve the pre-hospital care of STEMI patients.

- **Mechanical CPR Device Evaluations:** After extensive field evaluations of both the Autopulse by Zoll and the Lucas device by JoLife distributed by PhysioControl, we purchased eleven Lucas devices and placed them in service on our paramedic units. Soon after the implementation of the Lucas devices on our units, PhysioControl began distributing Lucas II as a battery powered alternative to the compressed air powered Lucas device. By prior arrangement, we were able to exchange our eleven Lucas devices for the lighter Lucas II, becoming one of the first agencies in the United States to utilize this new device. The use of mechanical CPR devices has been shown in several clinical studies to increase the likelihood of return of spontaneous circulation (ROSC) in cardiac arrest patients. It is also our belief that using mechanical CPR devices during transport will allow personnel to be secured in seatbelts, thereby increasing provider safety.



- **Enhanced Surge Capacity:** Sussex County EMS purchased a Medic Surge Vehicle through the Homeland Security State Grant Program which supports medical surge, a concept that allows EMS and health care agencies to increase their capacity to treat a large number of patients during a terrorist attack or large-scale disaster.



- **Pandemic Influenza:** Like many others in the health care community, Sussex County EMS purchased additional supplies, provided training and education to employees, and updated its emergency plans to deal with the effects of the H1N1 virus in Sussex County. Sussex County paramedics also received vaccinations and received the authority to administer vaccinations under the newly expanded scope of practice, and were therefore able to assist The Division of Public Health's efforts in vaccinating volunteers and other emergency workers.
- **Support for Special Events:** The department provided EMS support for more than 100 special events, ranging from the Little League Senior World Series, Apple Scrapple Festival, Punkin' Chunkin' and Festivo Hispano to July 4th fireworks displays in Laurel, Bethany Beach, Slaughter Beach and Rehoboth Beach, as well as numerous 5K races and bicycle events.



- **Public Education:** The Public Education, Information and Relations (PIER) Team participated in over 50 events throughout the year, including Senior Expo, EMS Day at the Delmarva Shorebirds baseball stadium, and several health fairs throughout the County. Among the events involving area schools, the team participated in the "Prom Promise" program, which is held immediately prior to high school prom season, and is designed to help students realize the special dangers posed to young drivers on prom night, particularly those related to alcohol. Another popular favorite is called "What In The World", which is designed to demonstrate the value of science and how it is used in professions such as paramedicine. Our PIER medics became involved in a new program for middle school children called "What's My Line?" based on the popular classic TV show. We also began offering blood pressure screenings for all county employees twice a month at several County facilities.



A Decade of Accomplishments

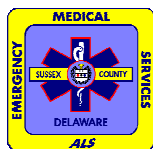
The decade began with an EMS service that was struggling administratively with rapid growth from a small local ALS department to what would become one of the largest EMS provider agencies on the Delmarva Peninsula. Sussex County EMS has grown from an organization of 61 employees in 2000 to a department that includes 115 paramedics, administrative and support staff today. During that same time, our organization added three additional paramedic units and an additional supervisory unit to improve the coverage of emergency calls and to improve direct observation and supervision on the care provided in the field. Over the same decade, our call volume increased from less than 13,000 to over 17,000, an increase of approximately 35%.

A new Director, Glenn Luedtke, arrived in early 2001 and was able, with his experience, maturity and steady leadership, to put SCEMS on a path that led to it to become one of the premier EMS organizations in the country, and the world. SCEMS competition teams won the gold medal in 2005 and silver medal, twice, in 2005 and 2009, at the EMS Today (JEMS Games) EMS skills competition in Philadelphia and Baltimore. Internationally, a SCEMS EMS team placed third in the world in a skills competition, the Magen David Adom MDA) Olympics, that included forty EMS teams representing twelve different countries in September of 2008.

Over the course of the decade, SCEMS introduced and implemented many new innovative skills, procedures and equipment that have provided Sussex County residents and visitors with medical care that exceeds the accepted standard of care locally, regionally and nationally. SCEMS is always at the forefront when it comes to implementing new and innovative medical devices and procedures and is recognized for these efforts throughout Delaware, the region and the country. Innovations such the use of CPAP (Continuous Positive Airway Pressure for patients with difficulty breathing), Endtidal Capnography (measuring carbon dioxide output in all patients), and Drug Facilitated Intubation (DFI) for trauma and medical patients, Induced Hypothermia for patients with ROSC (return of spontaneous circulation in a cardiac arrest situation) and the introduction of Lucas Devices (mechanical CPR devices) have all been either pioneered, trialed or implemented first in this area by SCEMS. Below are some of the major events and accomplishments of Sussex County EMS over the past decade.

- 2000**
 - Medic 106 opened in Long Neck
 - George Torbert resigned as Director and Robert Stuart Appointed Acting Director
 - Introduction of CPAP (Continuous Positive Airway Pressure)
- 2001**
 - New EMS Director, Glenn Luedtke
 - New Medical Director, Kevin Bristowe, MD
 - Celebrated 10 year anniversary
 - Upgraded cardiac monitors to Lifepak 12 with end-tidal Capnography
 - As a result of 9/11, we developed a strike team Standard Operation Proceedure to streamline deployment of resources.
- 2002**
 - Implementation of Drug Facilitated Intubation Program
 - Developed guidelines for Fire Scene Rehabilitation
 - New Mass Casualty Plan developed
 - Purchased first 8 mobile data computers for mapping, selecting and guiding closest units to calls

- 2003**
 - Sussex County pledged 1.1 million dollars for Public Safety complex in Bridgeville to house Paramedic Station 107 and DSP Troop 5.
 - Relocated Station 106 to Mid-Sussex Rescue Squad in Long Neck
 - ToxMedic Program initiated
- 2004**
 - Added second shift supervisor, creating East and West Districts
 - Began staffing Medic 107 unit out of the existing Blades station
 - Relocated Medic 102 to the Laurel Fire Department
 - New Associate Medical Director, Paul Cowan, D.O.
 - Reinstated paramedic student program at Delaware Technical and Community College
- 2005**
 - Competition Team wins gold medal at EMS Today Conference in Philadelphia
 - Station 107 opened as part of Adams – Ewing Public Safety Complex
 - Initiated staffing of Medic 108 out of Headquarters
 - Implementation of EZ IO intraosseous device
 - Received several Special Operations Vehicles utilizing Homeland Security Grants
- 2006**
 - Competition Team wins silver medal at EMS Today Conference in Baltimore
 - Updated EMS classroom with Homeland Security grant
- 2007**
 - Opened Medic 103 and Spec Ops station including a fitness center
 - Opened new 104 station in Midway (Lewes – Rehoboth Beach area)
 - Purchased Cinderberry Complex in Georgetown for a future Station 108 and Logistics
 - Medic 108 transitioned from a part-time to a fulltime unit housed in Headquarters
 - Began staffing Medic 109 Unit during high demand summer weekend days
 - Implemented Telestaff schedule management software
- 2008**
 - Paramedic injured in serious ambulance crash
 - First departmental Line of Duty Death
 - Competition Team place takes third place in Israel games
 - EMS Headquarters generator installed
- 2009**
 - Competition Team wins silver medal at EMS Today Conference in Baltimore
 - Station 104 dedicated in honor of Paramedic Stephanie Callaway
 - Medic 102 moved to newly constructed station in Laurel
 - Implementation of Lucas Devices
 - Implementation of Induced Hypothermia
 - Director Luedtke announced retirement in early 2010



Sussex County EMS

P.O. Box 589

Georgetown, DE 19947

302.854.5050

Caring People. Quality Service

www.sussexcountyde.gov/dept/ems/



Glenn Luedtke
Director, Sussex County EMS from 2001 – 2009



Photo by: Terry Plowman of Delaware Beach Life

Glenn Luedtke, Director of Sussex County Emergency Medical Services, retires on Friday, Jan. 8, 2010, from the department he led for nine years. Glenn took the reins of Sussex County EMS on Jan. 8, 2001, and since that time, has guided the organization during a period of tremendous growth and change. The occasion is one that is bittersweet for him, whose life's work has been in service to those around him – friends, family, and neighbors.

“While I’m looking forward to retirement, there’s also an element of sadness in knowing that I’m leaving a job that I have loved doing, and people whose friendships I truly treasure,” Glenn said. “Above all else, I am immensely proud of what we have been able to accomplish in the past nine years, and of the high quality of care our department has provided, and will continue to provide, to the citizens of Sussex County. It’s been a labor of love, done with a fantastic team of dedicated people, and I’ve been fortunate to be a part of it.”

Glenn is a nationally registered paramedic, and served as a paramedic, EMS officer, educator, volunteer fire chief and EMS director during his more than 40 years of public service. He is an adjunct assistant professor of emergency medicine at the George Washington University School of Medicine in Washington, D.C., and served as director of the Cape & Islands EMS System in Cape Cod, Mass., prior to becoming director of Sussex County EMS.

Glenn’s leadership gained Sussex County EMS regional, national, and international recognition as a premier advanced life support system. During his tenure, Sussex County EMS experienced a 35 percent increase in calls for emergency service. [In 2009, Sussex County EMS paramedics responded to more than 17,000 emergency calls].

In response to that growth, Director Luedtke worked with Sussex County Council and other leaders to expand the department from 61 personnel and six paramedic units in 2001 to a department of more than 100 employees and eight full time medic units today. Under his leadership, the department adopted new, state-of-the-art treatment protocols and implemented emerging technologies designed to improve patient care, including advanced airway management techniques and automatic cardiopulmonary resuscitation devices.

While serving as director of Sussex County EMS, Glenn continued to be involved in EMS on the state and national level. Glenn represented Sussex County on the Delaware EMS Oversight Council (DEMSOC) and served as Vice Chairperson for the past several years. He is a founding member of the National Association of Emergency Medical Technicians, and currently chairs the organization's EMS Safety Course Development Committee. He is a member of the EMS Safety Foundation, and served as the keynote speaker at the National EMS Safety Summit in Washington, D.C., in October of 2009. Additionally, he is a charter member of the National Association of EMS Educators, and a past member of the association's board of directors.

In 2006, Glenn was presented with the Sussex County EMS Administrator of the Year award by his peers, and in September 2009 was selected by the Delaware State Ambulance Association as the first winner of the Stephanie Callaway Memorial Award for Excellence in Paramedicine. The award was named for Sussex County Paramedic Callaway, who was tragically killed in the line of duty in 2008, the first such line-of-duty death in Delaware history.

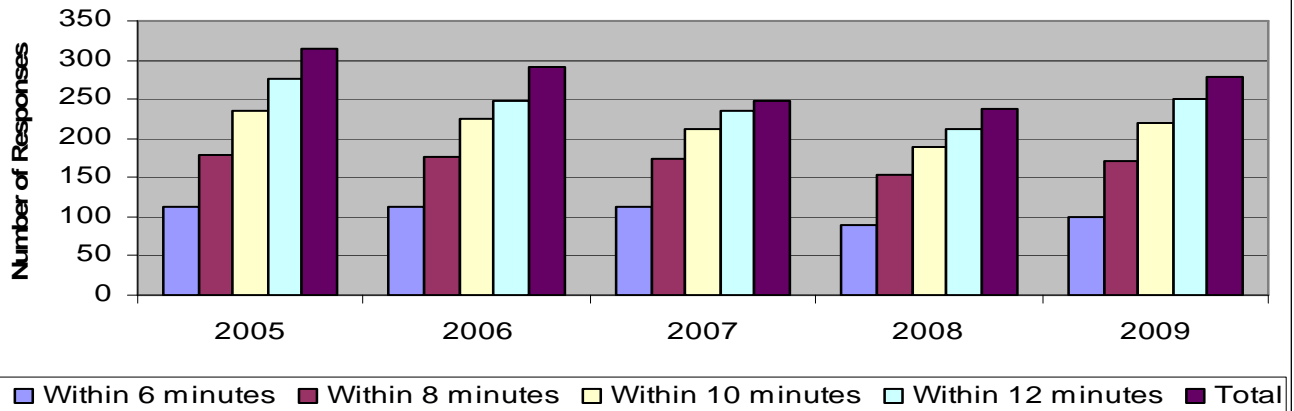
In addition to continuing to chair the national Safety Course Development committee, Glenn plans to co-author a textbook for emergency medical technician training, as well as write and appear in a series of training videos for the Florida Chapter of the American College of Emergency Physicians. He also will work as a consultant for several government agencies and private consulting firms.

In his spare time, Glenn plans to continue his other passion: music. He is an accomplished musician, and was a member of Baltimore Symphony Orchestra prior to serving as a member of The United States Army Band (Pershing's Own) in Washington D.C., from which he retired as a Sergeant Major in 1985. He currently performs regularly with the Salisbury University Wind Ensemble, the Milford Community Band, and the "Touch of Brass" quintet.

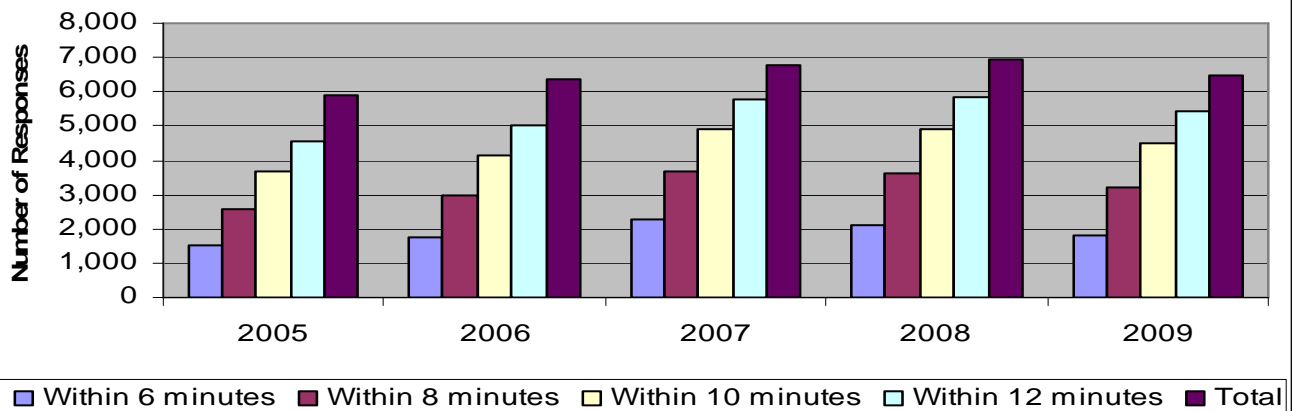


Photos and text submitted by Sussex County EMS

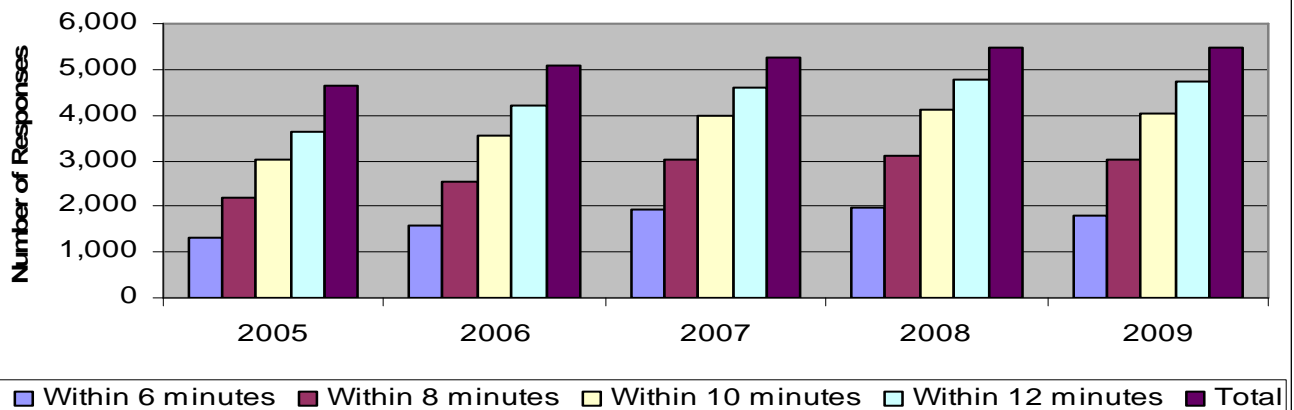
Echo Level Response, Sussex County EMS



Delta Level Response, Sussex County EMS

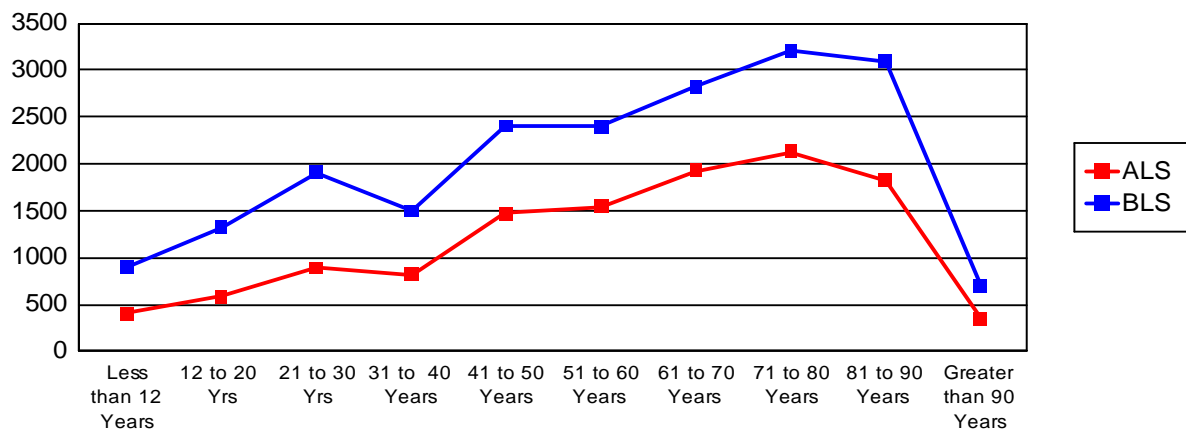


Charlie Level Response, Sussex County EMS



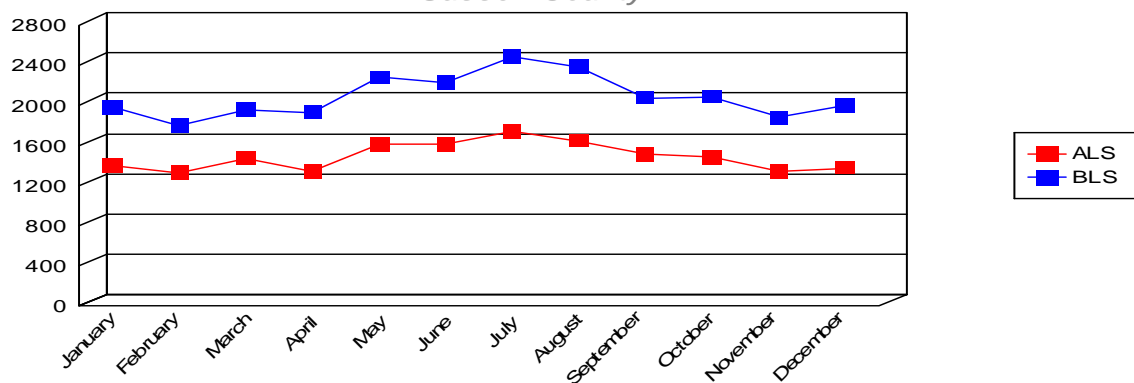
ALS and BLS Patient Age Comparison 2009

Sussex County

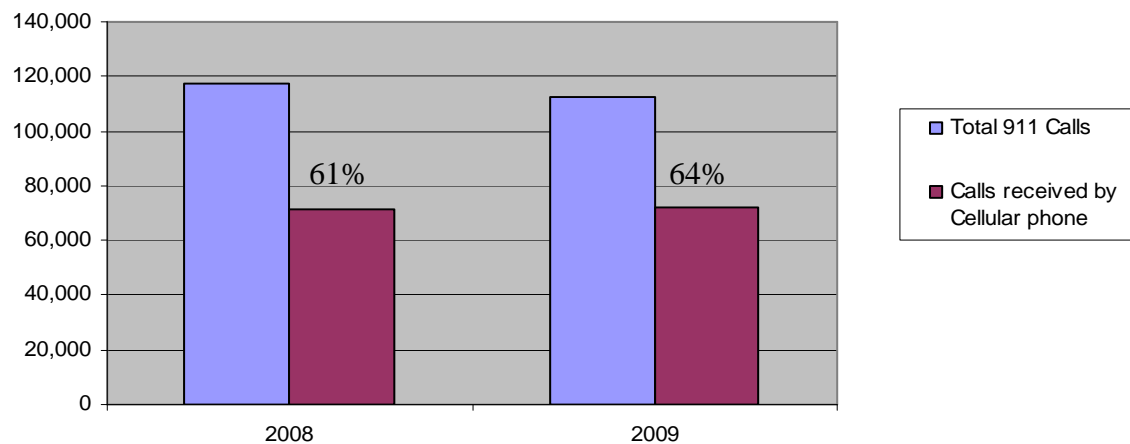


ALS/BLS Incidents by Month-2009

Sussex County

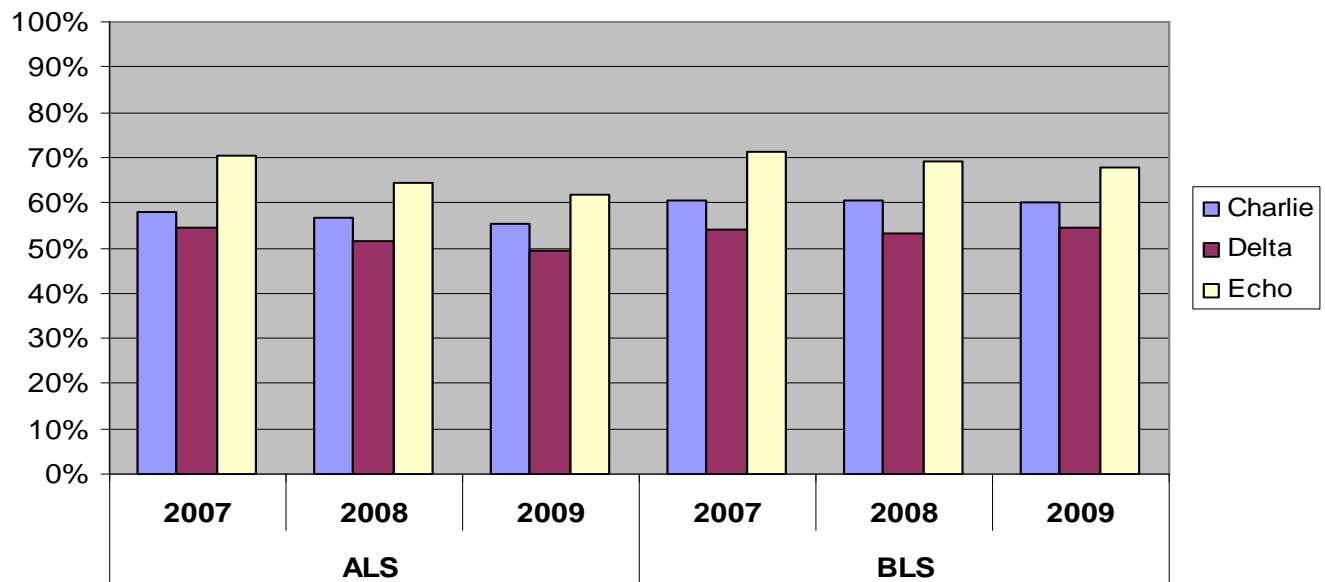


Sussex County Delaware 911 Calls



Total 911 calls for Sussex County includes calls to Sussex County 911, Rehoboth PD, and Seaford PD. Data Submitted by E 9-1-1 Board

Percentage When Sussex County ALS/BLS Arrived On-Scene in 8 Minutes or Less on Delta/Echo/Charlie Level Incidents-2009



2009 Sussex County BLS Scratch Report

Submitted Sussex County Dispatch

Station	Total	Scratches	Scratch Percent
Bethany Beach Fire Co.	542	8	1.48%
Blades Fire Co.	590	34	5.76%
Bridgeville Fire Co.	755	34	4.50%
Dagsboro Fire Co.	410	22	5.37%
Delmar Fire Co.	1182	17	1.44%
Ellendale Fire Co.	599	11	1.84%
Frankford Fire Co.	234	8	3.42%
Georgetown Fire Co.	2014	122	6.06%
Greenwood Fire Co.	479	19	3.97%
Gumboro Fire Co.	217	3	1.38%
Indian River Fire Co.	1761	74	4.20%
Laurel Fire Co.	1485	50	3.37%
Lewes Fire Co.	2177	23	1.06%
Millsboro Fire Co.	1712	138	8.06%
Millville Fire Co.	1302	85	6.53%
Milton Fire Co.	855	14	1.64%
Seaford Fire Co.	1026	74	7.21%
Selbyville Fire Co.	376	10	2.66%
Memorial Fire Co.	91	6	6.59%
Roxana Fire Co.	595	7	1.18%
Rehoboth Fire Co.	2473	98	3.96%
Total	20875	857	4.11%

Sussex County

Basic Life Support (BLS)

Submitted by various BLS agencies within Sussex County

Sussex County is comprised of 21 volunteer fire companies and two volunteer ambulance companies. The Georgetown American Legion responds on BLS calls within the Georgetown Fire District and the Mid-Sussex Rescue Squad responds on BLS runs within the Indian River Fire District.

ACCOMPLISHMENTS AND NOTABLE EVENTS

Lewis Fire Department Assist with Polar Bear Plunge:

Lewes FD assisted with the Lewes Polar Bear Plunge held at the beach in Rehoboth on Sunday Feb. 1st. Marine 82 was on stand by as over 2700 "Bears" made the dip into the Atlantic Ocean. The Delaware Special Olympics rose over \$500,000.00 from the event which is held annually.



Lewes Wins Best Overall at First Annual Harvey Grant Vehicle Extrication Challenge:

Lewes members competed in the first annual Harvey Grant Vehicle Extrication Challenge on Saturday at the Delaware State Fire School in Dover and brought back five awards. The team made up of Team Captain Asst. Chief Gordon Davis, Asst. Chief Steve Evans, Captain Tim McClanahan, Captain Mike MacCoy, Chief Engineer Troy Virden, Lieutenant Travis Shalaby, Junior Captain Jen Arnold, and Firefighter Ralph Petrella trained for over 6 weeks in preparation for the event and the hard work was evident in the team's performance. Four teams competed including Georgetown, Claymont and Smyrna. The competition tests team skills in patient extrication using hydraulic power tools (unlimited) and without hydraulic power tools (limited). Lewes placed first in the limited category, second in the unlimited category and best overall making them top in the state. Team Captain Gordon Davis was also awarded best incident commander and Jen Arnold and Ralph Petrella were awarded best EMTs.

Carbon Monoxide Detectors:

The Bethany Beach, Roxana and Selbyville Volunteer Fire Companies have each received delivery of two RAD57 Carbon Monoxide Oximeters. These new tools are the most aggressive prehospital diagnostic tools on the market which allow Fire and EMS Responders to identify Carbon Monoxide Poisoning in both the medical patients as well as firefighters operating on fire

scenes. This combined effort, group purchase and cooperation by these three companies made it possible to save \$750.00 per device. These hand held RAD57 Carbon Monoxide Oximeters will be deployed for use on Ambulances or Command Vehicles in their respective fire districts. They will also be available for mutual aid assistance to any department that has a need for an on scene assessment of possible CO Exposure. Any patient that has a complaint consistent with CO Poisoning will be evaluated on scene and determined if a possible exposure is present. This early identification will assist in transporting patients to an appropriate medical facility for continued care or to rule out CO exposure altogether. To meet the National Fire Protection Association section on Firefighter Health and Safety, firefighters operating on fire scenes will also have their Carbon Monoxide levels assessed by these meters when they enter into the rehabilitation areas on emergency scenes. The Bethany Beach, Roxana and Selbyville Vol. Fire Companies join the Sussex County Paramedics, Lewes and Ocean City Fire Departments in placing these devices in service on a daily basis.

Burn Camp Demo at Roosevelt Inlet and Broadkill River:

Members from Lewes, Slaughter Beach, DSP Aviation, and U.S.C.G. took the kids from the Delaware Burn Camp for a ride on 82-Marine-1 and Marine-89. While out, the kids got to see DSP aviation doing a training exercise practicing basket rescues with the 412 aircraft. The kids then operated the water monitors and learned about the fire boats. Thanks to all that helped out!

Bridgeville Fire Company Celebrates Their 100th Anniversary:

The Bridgeville Volunteer Fire Company (BVFC) is pleased to announce that 2009 commemorates our 100th anniversary. To celebrate this event The Company hosted a Parade followed by an Open House on December 19, 2009. The BVFC was founded on December 14th, 1909, when a meeting was held by the citizens of the Town of Bridgeville at the old Opera House. This meeting was the monumental establishment in organizing a Volunteer Fire Company for its community. Ira Lewis, William E. Dimes, and Howard E. Hardesty were appointed to secure the necessary membership to incorporate what is known as the Bridgeville Volunteer Fire Company, Inc. A year later on December 29, 1910, the plans for the first building and land were approved for a cost of \$1,100. The original firehouse still stands at Union and Williams Streets and the original hose cart is displayed in the lobby of the current firehouse. The first ladder truck and fireman suits were purchased in 1917. In 1928 the old firehouse was sold and the BVFC moved to its current location. In 1936 the Company also purchased a 1936 REO Speed Wagon with a 300 gallon tank, which has been restored and is still in service to this date.

For the past 100 years Bridgeville men and women have given their time to answer the emergencies of their neighbors in the spirit of volunteerism and this celebration is a tribute to that milestone. The BVFC is currently staffed by 60 volunteer members and two professional EMTs who answer over 300 fire calls and 800 ambulance calls yearly. The Company is led by President - Allen Parsons and Chief - Jack Cannon.

The Dagsboro Vol. Fire Company Gives Prom Promise Demonstration to Local High School:

The DVFD, with the assistance from the Frankford VFC EMS & Sussex County EMS, gave a demonstration of the chilling effects of drinking & driving to the junior & senior classes at the Indian River High School. Crews were staged at the entrance of the high school & responded to the rear parking lot where a 2 vehicle MVC was staged with 1 ejected & 2 trapped. The entire

demonstration was treated as if it was a real incident. Crews from the Rescue Company preformed a total driver side removal, along with the roof.



New Ambulance for Dagsboro Vol. Fire Company:

The Dagsboro VFD has taken delivery of a 2009 Life Line on a Chevy C4500 chassis. The ambulance will be designated as A-73 and will replace our current 1999 Life Line. The unit was sold by Paul Monarski of Diamond State Ambulance Inc. Members serving on the Amb. Committee were: Chairman Brandon Donaway, Amb. Lt. Holly Donaway, Amb. Capt. Donald Mulholland, Engineers Al Townsend and Roger Smith.



Seaford Volunteer Fire Company Junior Members donate to Burn Camp:

The junior members of the Seaford Volunteer Fire Department donated \$255 to the Delaware burn Camp Foundation. The junior members raised the money by recycling cans and doing a 50-50 drawing at the Nanticoke Riverfest Festival. The proposal was made to the junior members to support the burn camp and told about how much summer camp means to kids with muscular dystrophy. The junior members voted that night to support it and came up with the idea to do a 50-50 at the Nanticoke Riverfest. This is the first year for the Delaware burn camp and it is being held at Camp Barnes from Aug 17-23. The camp is free to kids from Delaware who have suffered burns and while attending camp will enjoy many physical and social activities while having medical supervision on site. Two kids from the Seaford area are attending camp this year.

Home Run Derby to benefit Crozier-Chester Burn Center:

On August 14, 2009 people came from far and wide to participate in the Home Run Derby at the Crozier-Chester Burn Tournament. When all was said and done, three guys had outblasted, out-distanced, and out-hit the rest. Third place honors went to Robbie Johnson, 2nd to Gary Everage, and the 2009 home run champ is Schawn Ridgeway!!!



New Ambulance in service for Millsboro Fire Company:

The Millsboro Fire Co. has placed in service a new 2009 Kodiak Lifeline on October 8, 2009. This ambulance replaced a 2000 E450 Med-Tech with 170,000 miles.

Blades Volunteer Fire Company 75th Anniversary Open House:

On May 16, 2009, Blades Volunteer Fire Company celebrated their 75th Anniversary with an Open House and Parade.

Roxanna Volunteer Fire Company standby at little League:

The Roxana Vol. Fire Co. sent an ambulance to standby during opening ceremonies for the Lower Sussex Little League at the Pyle Center where Sherman from the Shorebirds stopped by to take a picture.



EMS is an ever changing discipline in Sussex County due to the increase in growth and development. These changes create difficult challenges for the companies that provide BLS services. Although these companies know that changes and mandates are forthcoming, they are willing to make the necessary changes to better meet the needs of their community. This positive attitude combined with a dedicated group of pre-hospital providers ensures that Sussex County EMS will continue to provide quality medical services long into the future.

Communication Center

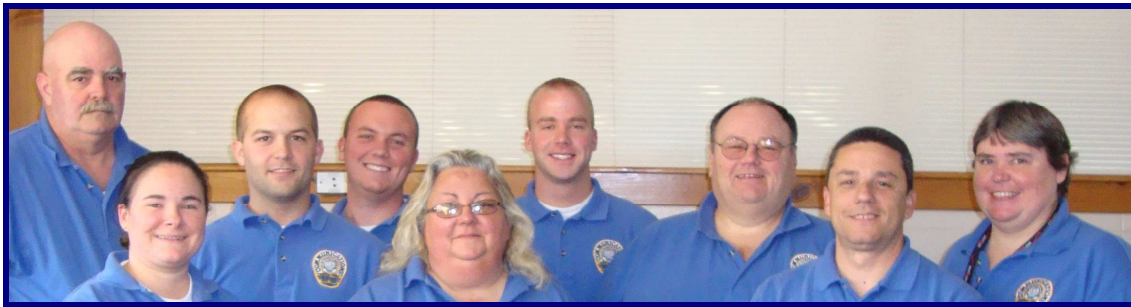
Sussex County

Submitted by Sussex County, Rehoboth, and Seaford Dispatch Centers

There are three (3) dispatch agencies serving Sussex County. All three dispatch centers operate 24 hours a day 7 days a week.

REHOBOTH CENTER:

The Rehoboth Beach Police Department 9-1-1 Communications Center operates 24 hours a day on a year round basis. It provides Police communications service to the City of Rehoboth Beach and Fire/EMS communications to the Fire Territory of the Rehoboth Beach Volunteer Fire Company. The Center is staffed by a Communications Supervisor and 8 (eight) Full Time Telecommunicators. The center has a minimum staffing of one, but there are two Certified Dispatchers on duty for the majority of shifts. While the Center is much busier during the summer months due to our area being a resort, the number of Fire/EMS calls during the winter months continues to increase as the area's year round population increases.



The Center was Re-Accredited by the National Academy of Emergency Medical Dispatch on August 1, 2007, and will submit its next Re-Accreditation Application in May/June 2010.

Our Center receives all 9-1-1 calls from landlines in the 226/227 phone exchange and from several cellular towers in the area. In 2009 we processed 5,420 9-1-1 calls and 33,716 administrative phone line calls. The center dispatched or processed 3,885 police/city incidents; 3,275 traffic stops; 709 fire incidents; and 2,478 EMS incidents (Alpha = 541, Bravo = 460, Charlie = 503, Delta = 603, Echo = 26, Omega = 25, and 311 Fire Responses).

In 2009, we achieved a second full year at full staff with no resignations and all personnel out of training. This allowed us to achieve EMD Quality Assurance Score Levels for the year of 97.10% on Case Entry Processing; 98.07% for Key Question Processing; 97.46% for Pre-Arrival Instructions; 98.067% for Post Dispatch Instructions; 96.41% for Chief Complaint, 97.34% for Final Coding; and an overall average score of 97.39%.

The Center transitioned from EMD Version 11.3 to Version 12.0 on February 1, 2009. Dispatcher Matthew King was awarded a Life Saving Commendation for CPR Instructions that resulted in a "Save" and Dispatcher Dustin Crago was awarded a Commendation for Merit for

his handling a 9-1-1 Emergency Call from a small child. We began the reactivation of our 9-1-1 Education Program with visits to area pre-schools, elementary schools, long term care facilities, medical treatment facilities, and physicians offices.

CITY OF SEAFORD POLICE DEPARTMENT:

The Seaford 911 Center operates 24 hours a day on a year round basis. It provides communication service to the City of Seaford to include the police department of 27 full time officers along with the Seaford Fire Department handling fire and EMS calls for service. The Seaford 911 Center continues to be staffed with 9 full time communications specialists which include a Dispatch Administrator who oversees the daily operation.

The Seaford 911 Center was originally Nationally Accredited by the National Academy of Emergency Medical Dispatch in August of 2003 as the 83rd accredited 911 Center. We were again re-accredited in December of 2008. Early re-accreditation was accomplished due to a major renovation to the Seaford Police Department and 911 center; re-accreditation is now scheduled for December 2011. This renovation of approximately one million dollars will more than double the size of the Seaford 911 Center along with the addition of a new Motorola radio system and the latest Verizon Viper 911 system. With the new addition to the communications facility there will be all new consoles for four positions.

Seaford 911 Center receives all 911 calls from landlines in the 629/628 exchange and calls from several cellular towers in the area. In the year of 2009 the Seaford 911 Center received approximately 12,000 911 calls for service and approximately 6,500 cellular calls along with 63,000 administrative calls. The Seaford 911 Center dispatched approximately 9,000 police calls for service, 2,469 EMS calls and approximately 646 fire calls.

SUSSEX COUNTY EMERGENCY COMMUNICATION CENTER:

The Sussex County Fire and Ambulance Callboard employs 20 Full Time Fire/EMS Dispatchers, 1 Quality Assurance Supervisor, and 1 Assistant Chief Dispatcher.



Fire Service Mobile Project: Working with CAD vendor to deploy Mobile Data Terminals to the volunteer fire service in Sussex County that will interface with the CAD system to provide latest technology as well as providing the field units more information in the apparatus which include driving directions, automatic vehicle location, and touch screen status update.

Computer Aided Dispatch System: In 2008 upgraded the CAD system to the latest software and hardware technology to meet the growing needs in Sussex County.

EMS Mobile Project: Continue to support Sussex County EMS with Mobile Data Terminals, which operate in the same fashion as the fire service mobiles.

Diversion Reports: The Sussex County Fire and Ambulance Callboard compiles a diversion report for the 3 hospitals in Sussex County as well as 2 hospitals in Maryland that border Sussex County.

Re-Accreditation: The Sussex County Fire and Ambulance Callboard continues to meet accreditation standards set by the International Academy of Emergency Medical Dispatch. The Fire and Ambulance Callboard has filed the necessary paperwork for re-accreditation by the International Academy of Emergency Medical Dispatch.

Regional Training Facility: Continue to maintain our status as a regional training facility for the National Academy of Emergency Dispatch, offering Emergency Medical Dispatch (EMD), Emergency Fire Dispatch (EFD), and Emergency Telecommunicator Course (ETC) training for the entire region.

Beta Test Site: Sussex County was chosen by TriTech Software Systems to be a Beta Test Site for the latest version of their CAD software. The Center was also chosen to be a Beta Test Site for Priority dispatch for Protocol changes and updates along with the testing of new protocols.

Continuing Education: Continue to provide various training programs including Weapons of Mass Destruction, Emergency Fire Dispatch Refresher, Delaware Emergency Notification System, etc.



Aviation



155 **Delaware Air
Medical Services**



158 **Delaware State Police**



168 **LifeNet**

Page Left Blank Intentionally

Delaware Air Medical Services

Delaware's Division of Public Health first promulgated Regulations for Air Medical Ambulance Services in 1993. The purpose of these regulations is to provide minimum standards for the operation of Air Medical Ambulance Services in the State of Delaware. It is the further intent of these regulations to ensure that patients are served quickly and safely with a high standard of care. Subsequent revisions in 2001 and 2002 described the air medical service application and state certification process and resulted in the emergence of a well-developed system of air medical transportation in the state.

Currently, private air medical services may apply for any of three levels of State of Delaware interfacility transport certification and/or prehospital certification:

LIMITED STATE CERTIFICATION: Approval granted following satisfactory completion of the air medical program certification process to an air medical service wishing to provide one-way transport to or from Delaware only.

FULL STATE CERTIFICATION: Approval granted following satisfactory completion of the application process to an air medical service wishing to provide point to point transport service within the state of Delaware, in addition to one way transport to or from Delaware.

PREHOSPITAL 911 CERTIFICATION: Approval granted following satisfactory completion of the application process to an air medical service wishing to act as a supplemental resource to the Delaware State Police in carrying out prehospital scene missions in Delaware. These services may also apply for full certification to provide point to point transport service within the state of Delaware and one way transport to or from Delaware.

The initial certification period is three years. Recertification is required every three years.

Scene response – The Delaware State Police (DSP) Aviation Section has responsibility for primary scene response throughout Delaware and is certified for interfacility transport as a secondary mission when needed. Additionally, the following private air medical service is state-certified to be dispatched by the Emergency Operations Centers when DSP is not available to respond to a scene or when more than one aircraft is needed:

- *Christiana Care LifeNet, Newark and Georgetown DE*

The *Delaware 911 Air Medical Dispatch Process*, which was developed based on proximity of the aircraft to the incident location, is utilized to determine the next due aircraft to be dispatched.

Interfacility transfer – State-certified private air medical services are utilized as the primary transport services for patients who need to be transferred to a higher or more specialized level of care, either within Delaware, or within the region, such as to a Burn Center.

The following private air medical services have full state certification to perform point-to-point Delaware interfacility transports:

- *Christiana Care LifeNet, Newark and Georgetown Delaware*
- *STAT MedEvac, Baltimore Maryland, providing air transport for the Alfred I. duPont Hospital for Children transport team*
- *MedSTAR, Maryland and Washington DC*
- *PHI for Maryland ExpressCare, Baltimore Maryland*

The following private air medical services have limited state certification to perform flights bringing patients either into or out of Delaware:

- *Christiana Care LifeNet, Newark and Georgetown Delaware*
- *STAT Med Evac, Baltimore Maryland, providing air transport for the Alfred I. duPont Hospital for Children transport team*
- *MedSTAR, Maryland and Washington DC*
- *PHI for Maryland ExpressCare, Baltimore Maryland*
- *JeffSTAT LifeNet, Philadelphia Pennsylvania*
- *MidAtlantic MedEvac, Pottstown/Doylestown Pennsylvania*
- *PennSTAR, Philadelphia Pennsylvania*
- *Sky FlightCare, Coatesville Pennsylvania*

The following air medical services are available to our state through Mutual Aid agreements:

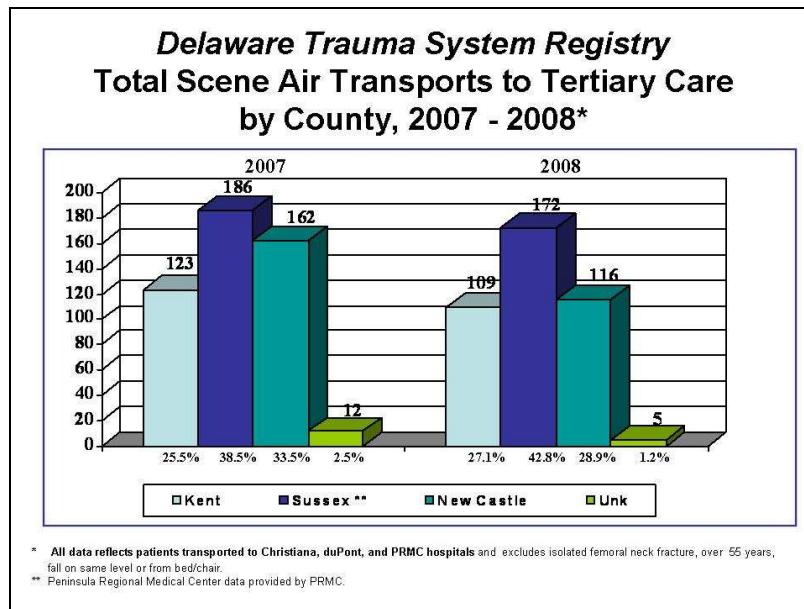
- *Maryland State Police Aviation Section*
- *New Jersey State Police Aviation Section*

A DECADE OF ACCOMPLISHMENTS

Ten years ago, the Delaware State Police Aviation Section provided the only air medical support for both scene and interfacility transports. Maryland State Police MedEvac helicopters provided backup for mutual aid situations. Private air medical services from Pennsylvania were available to transport Delaware patients to Pennsylvania burn centers. There was no air medical support within Delaware during night shift hours.

Growth of Delaware's air medical system began to occur in 2001, when Christiana Hospital, Delaware's Level 1 Trauma Center, developed the Christiana Care LifeNet air medical program. Through a written memorandum of agreement with Delaware State Police (DSP) and the Division of Public Health (DPH), LifeNet became the primary interfacility air medical transport provider, while DSP retained primary responsibility for scene response. The LifeNet program went on to become certified for scene response, and provides backup for DSP when needed.

In 2004 the DSP aviation program expanded coverage to 24 hours a day, 7 days a week in order to better serve the citizens and visitors of Delaware. In 2006 Christiana LifeNet added a second site and aircraft in Georgetown, Sussex County and by late 2006 a total of eight private air medical services had successfully applied for Delaware air medical program certification, in addition to the Delaware State Police air medical program. In 2008, DSP increased its capacity through purchase of a Bell 412 aircraft, which can carry more patients and therefore be useful in case of evacuations. It is also used with the Helicopter Emergency Action Team (HEAT). Below, trauma scene air transports to tertiary care hospitals Christiana, duPont, or Peninsula Regional by county.



AIR MEDICAL SYSTEM CHALLENGES

The Trauma System Quality Committee will be continuing to work on analyses of data to determine optimal distribution of patients throughout the Trauma System. This includes methods of identifying the most seriously injured patients, with utilization of air medical transport to move them directly to the Level 1 or Level 2 Pediatric Trauma Centers from the scene, while triaging less seriously injured patients to the Community Level 3 Trauma Centers. The goal is optimal utilization of the resources of all level facilities so as to avoid overcrowding of our tertiary care centers and underutilization of the resources available close to the patients' homes in the Community Trauma Centers.

Safety issues are a continuing priority of the air medical service providers and of the Office of EMS. All certified air medical services provide updated safety equipment and safety program and procedures information as part of their recertification process. Regular helicopter safety inservices for both scene providers and hospital staff are encouraged. Safety information such as the resolution from the National Association of State EMS Officials (NASEMSO) requesting all air medical stakeholders to work to assure full disclosure regarding weather and other relevant information when seeking air medical response are discussed in Trauma System Committee meetings and forwarded to dispatch centers, hospitals, and air medical services statewide.

Delaware State Police

Aviation Section

Submitted by DSP Aviation



MISSION STATEMENT

To Enhance the Quality of life for all Delaware Citizens and visitors by providing professional, competent and compassionate law enforcement services.

CORE VALUES



HONOR



INTEGRITY



COURAGE



LOYALTY



ATTITUDE



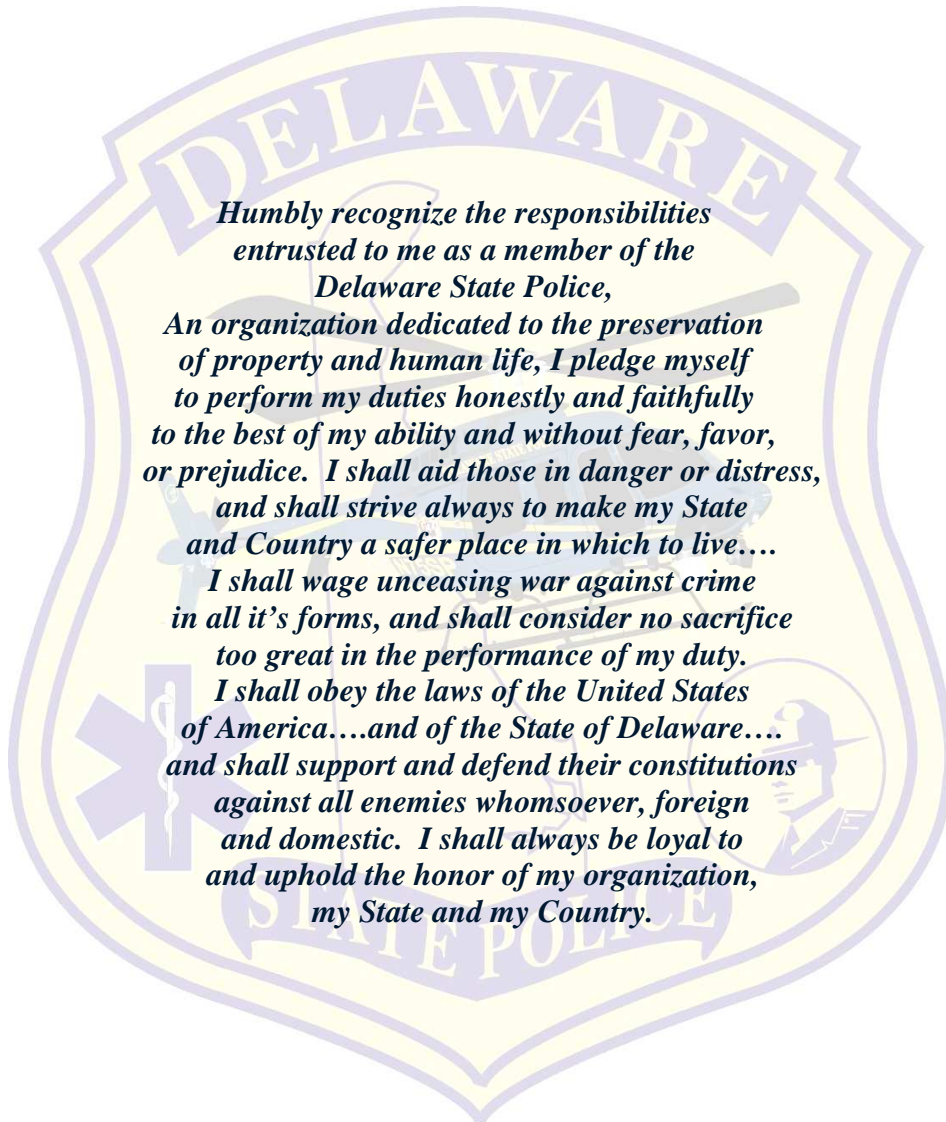
DISCIPLINE



SERVICE



DELAWARE STATE POLICE TROOPER'S PLEDGE



Delaware State Police

Delaware State Police Aviation Section provides effective support services to our law enforcement, medical, and search and rescue communities. As the Section's mission expands to encompass the many new demands placed on the Division on the Homeland Security front, members have been able to incorporate new technologies, add new equipment, undertake and excel in new responsibilities such as the search and rescue mission and maintain the 24/7 expanded hours of operation.

The Aviation Section supports State, federal and local law enforcement traffic concerns by providing aerial assistance during vehicle and foot pursuits, traffic reconnaissance during large public events and route security during events involving visiting dignitaries/important persons. Our Sections provides criminal reconnaissance and stand-by medical evacuation during high risk warrant executions to all law enforcement agencies operating in our state and surrounding area. Additionally, the fixed wing component of our mission transports detectives to assist in investigations and provides extradition for Delaware fugitives. Delaware Department of Natural Resources and Environmental Protection Agencies also utilize the Section for game and environmental violation.

The Section continues its participation in the Open Water Rescue program, which involves a partnership between the state police, the United States Coast Guard, the Delaware Fire Service, and rescue swimmers from area beach patrols. Aviation, at EMS request, provides air medical transport for seriously injured and ill persons. Organ transplant recipients are also transported, at request, by our section to hospitals within or outside of our State borders. Similarly, we provide patient transport from hospital to hospital in order to facilitate the highest and most appropriate level of care.

The 2009 calendar year was one of significant change in the leadership within the Delaware State Police Aviation Section. Captain Jeffrey Evans, who is a 23-year Veteran with the State Police and served as the Aviation Section Commander since 2000, transferred to Troop-6 as the Troop Commander. Prior to being appointed as the Aviation Section Commander in 2000, Captain Evans served as the Paramedic commander for approximately 6 years. Captain Evans spent 19 years of his career in the Aviation Section serving the EMS and police communities. Captain Evan's dedication and commitment to the Aviation Section is commendable. We wish him luck with his future endeavors and the rest of his journey with the Delaware State Police.

Aviations new Section Commander, Captain Ron Hagan, is no stranger to the police and EMS communities. Captain Hagan came from Troop-7 as the Troop Commander. Captain Hagan is a 25 year-veteran with the Delaware State Police and also has strong roots within the EMS communities, as he has been involved in the fire service for a good part of his life. We welcome Captain Hagan and look forward to projecting a forward path through his leadership.

Lieutenant Ben Parsons was promoted from Sergeant to Lieutenant and transferred to Troop-7 as the Traffic Lieutenant. Lt. Parsons is a 12-year veteran with the state police where he dedicated 8 years of his tenure serving the public and EMS/police communities as a Trooper/Paramedic, however upon being promoted to Sergeant in 2007, he served the Aviation Section as the Paramedic Commander. We are grateful for the service and leadership that Lt. Parsons provided and we wish him well in his new position with the State Police.

Sergeant Keith Mark was promoted and now serves as the State Police Aviation Paramedic Commander and is responsible for the entire medical component of our operation.

Sergeant Tom McKeown was promoted to the rank of Sergeant and serves as the NCOIC of Aviation North. Sgt. McKeown is one of the sections most seasoned and proficient pilots. Sergeant McKeown is a 20-year plus veteran with over 15 years of service in the Aviation Section.

The oldest of the Bell 407 helicopter's was sold this past year (N407SP). This Helicopter was unique in that it was the first Bell 407 off of the assembly line sold to the public/government agencies. This aircraft served the citizens, police and EMS communities of Delaware for over a decade with over 4000 flight hours on it when it was sold.

In the fall of 2009, Cpl Ted Stipa and Mike Branch successfully completed the 18 month Delaware Technical and Community College Paramedic Program. This milestone reflects highly on their dedication to the Aviation section and their commitment to the Division's Core Values. This intense 18-month program came at great costs and sacrifice. Cpl's Stipa and Branch commitment and dedication during this academic endeavor is commendable. We welcome them to the DSP Aviation family and wish them a successful and fulfilling career within the Aviation Section.

In light of the recent Helicopter Emergency Medical Services (HEMS) crashes, the Delaware State Police have been working internally and also in conjunction with the State Office of Emergency Medical Services/Medical Directors to help ensure that we are operating under the safest conditions while at the same time making sound judgment when it comes to utilizing aero medical transport. Several examples would include: adjusting weather minimums, Primary Medical Dispatch (PMD) modifications and changing the helicopter dispatch window from 10 minutes to 20 minutes. In addition, internally DSP is working towards meeting recommendations set forth by the National Transportation Safety Board (NTSB). Many of the recommendations are already being met by DSP, for example: utilization of night vision goggles (NVG) for flights during darkness. NTSB recommends equipping all aircraft with autopilot. Currently only the Divisional Bell 412 has autopilot. There are auto pilot systems currently on the market for Bell 407's, however this is new technology and is therefore costly. Despite this obstacle, the section is working towards finding a solution so that this potential life saving equipment can be purchased for all of the Divisional helicopters. Another NTSB recommendation is to equip helicopters with TAWS (Terrain Awareness Warning System). The Bell 412 per NTSB recommendation is equipped with TAWS. However, this too is new technology and costly equipment for rotorcraft and the section is attempting to obtain funding to equip all rotorcraft with this technology as well. NTSB also recommends a scenario based and simulator training, which DSP provides to all pilots on an annual basis at the Bell Helicopter training facility in Houston, Texas.

In the fall of 2009 Cpl's Aube, Branch and Stipa attended the week long Counter Narcotics and Terrorism Operational Medical Support Program (CONTOMS), which certifies them as an Emergency Medical Technician-Tactical (EMT-T). This certification is a requirement to function as a tactical paramedic within the State of Delaware. Tactical Paramedics accompany DSP Special Operations Response Team (SORT), Emergency Ordinance Disposal (EOD) and Wilmington Police Department (SWAT and EOD) teams during high-risk operations providing Advanced Life Support (ALS).

Tactical EMS Missions 2009

SORT and EOD

DSP Trooper/Paramedics along with the Wilmington Police Department (WPD) Police Officer/Paramedic (Sgt. Adam Ringle) provided Advance Life Support (ALS) coverage for DSP and WPD SORT/EOD operations on 135 missions. Our collaborative efforts with WPD proved to be a successful partnership again this year as the tactical medic callouts from 2008 to 2009 increased by 125%. According to the 2008-year end statistic report, the total call-outs totaled 60 missions. For 2009, DSP Tactical Medics responded to 135 call-outs meeting our goal of providing ALS coverage on every SORT Mission and on all Explosive Ordinance Disposal (EOD) call-outs when requested by the EOD Officer in Charge. The total number differs from the total response number on the attached 2009 SORT Data Report due to the fact that the total number includes training exercises, physical training applicant testing and call-outs that required activation of multiple ALS tactical medics to support the mission.



DSP TACTICAL MEDIC RESPONSE STATISTICS

2009 Medic Response Record

	234	229	635	779	835	907	149	293	429	449	32	1102	Ringle	Total
January	0	0	1	0	0	0	1	0	6	0	0	0	1	9
February	0	0	4	0	0	0	1	0	3	0	0	0	1	9
March	0	2	0	0	0	1	1	1	0	0	0	0	3	8
April	0	0	1	0	2	1	3	1	0	0	0	9	0	17
May	0	0	0	0	0	0	5	1	0	0	0	6	2	14
June	1	0	1	0	0	0	2	2	1	0	0	4	1	12
July	0	1	0	1	1	0	8	0	1	0	0	2	2	16
August	0	5	1	0	0	0	4	0	0	0	0	4	1	15
September	0	0	3	0	2	0	1	0	0	0	2	1	1	10
October	0	1	0	0	0	0	1	0	2	1	6	1	7	19
November	0	0	1	0	0	2	0	0	0	1	2	0	1	7
December	0	0	1	0	0	1	6	0	2	0	0	1	0	11
	1	9	13	1	5	5	33	5	15	2	10	28	20	147
Total Responses	1	9	13	1	5	5	25	5	15	2	10	26	18	135

2009 Mission Types

Medic	High Risk Warrant	Hostage Barricade	Dignitary Protection	Civil Disturb.	Training / Exercise	Other
234	1					
229	8	1				
635	11	2				
779	1					
835	5					
907	5					
149	22				7	4
293	5					
429	14		1			
449	2					
32	8	2				
1102	25	1			2	
Ringle	8	3			2	7
TOTAL	115	9	1	0	11	11

The following are statistics from the Wilmington Police Department Tactical Paramedic Memorandum of Understanding (MOU) program for the 2009 calendar year highlighting the success of the Paramedic (MOU) between the Delaware State Police and the Wilmington Police Department and how the collaboration of resources is not only beneficial to the individual agencies but to the citizens we serve as well.

TOTAL ACTIVATIONS (including cancels)	= 203.0
MEAN ACTIVATION	= 1 CALL EVERY 1.8 DAYS
WPD SWAT (including cancels)	= 141
DSP SORT RINGLE	= 10
DSP EOD RINGLE	= 13
WPD EOD RINGLE	= 6
AVIATION SAR RINGLE	= 2
CALLS RINGLE MUTUAL AIDED TO DSP MEDIC	= 20
DSP CALLS MUTAL AIDED TO RINGLE	= 25
CALLS WHERE NO MEDIC AT ALL AVAIL	= 4
ALS MEDIC STAND-BY'S	= 7

The data listed outlines the significant need for specialized tactical/EOD Paramedic services for both the Wilmington Police Department and the Delaware State Police alike. Furthermore, this program has been proven successful and continues to protect our responding personnel and citizens alike during major and critical incidents. In 2008, which was the first year of the MOU, tactical paramedics were activated once every 2.77 days. However, in 2009 Tactical Paramedics were activated once every 1.8 days. This is a significant increase in calls for service, thus validating the importance and necessity of the program/partnership.

Delaware State Police Aviation Section

2009 Missions

MISSIONS	KENT	NEW CASTLE	OTHER	SUSSEX	TOTAL
Medical	468	146	10	416	1040
Scene	105	63	4	129	301
Negative Transport	363	82	5	284	734
Inter-Hospital	-	-	-	1	1
Medic Assist	-	1	1	2	4
Traffic	12	15	-	12	39
Search & Rescue	10	45	3	50	108
Reconnaissance	4	9	-	13	26
Criminal Search	39	152	3	67	261
Surveillance	9	121	2	56	188
Maint & Testing	5	72	-	38	115
Training	5	125	1	83	214
Demonstrations	2	4	1	7	14
Law Enforcement	-	-	1	1	2
Fire Fighting	-	1	-	-	1
Other	12	43	1	10	66
TOTAL	566	733	22	753	2074

Delaware State Police Aviation Section

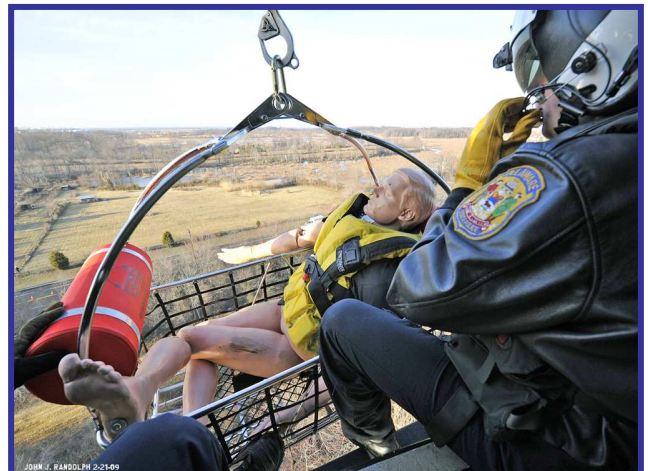
2009 Flight Hours

	KENT	NEW CASTLE	OTHER	SUSSEX	TOTAL
Medical	136.6	40.4	6	172.2	355.2
Scene	92.7	28.5	4.1	129	254.3
Negative Transport	43.9	11.5	1.5	40.3	97.2
Inter-Hospital				1	1
Medic Assist		0.4	0.4	1.9	2.7
Traffic	12.4	9.2		11	32.6
Search & Rescue	7.4	17.3	5.6	20.3	50.6
Reconnaissance	2.4	6.1		5.2	13.7
Criminal Search	25.1	76.2	4.6	32.9	138.8
Surveillance	6.4	64.9	1.4	57.1	129.8
Maint & Testing	1.5	41.3		20.2	63
Training	2.5	129.1	3.5	65.1	200.2
Demonstrations	1.2	5.4	0.8	3.8	11.2
Law Enforcement			1.5	0.8	2.3
Fire Fighting		0.2			0.2
Other	8.2	28.6	1.5	6.2	44.5
TOTAL	203.7	418.7	24.9	394.8	1042.1

AED Deployments

Delaware State Police (DSP) Troopers deployed their Automated External Defibrillator (AED) on 14 occasions, which met the criteria for download (pads-on-patient). The following is a summary of the utilizations:

- 1 Utilization where the trooper administered 2 shocks resulting in the patient having a return of circulation (ROS). The patient was transported to the hospital, however later expired at the hospital.
- 9 utilizations where the AED analyzed followed by a “No Shock Advised” prompt.
- 1 utilization where the trooper administered 2 shocks, however the patient never had a return of circulation (ROC) and was subsequently pronounced dead.
- 2 utilizations where the AED analyzed and advised no shock. Upon the paramedics arrival the patient was found to have a pulse.
- 1 utilization where the AED analyzed and advised no shock due to a pulse being present. Bystanders just prior to the AED being utilized were performing CPR. Bystanders advised patient did not have a pulse prior to starting CPR.



Infectious Disease Exposures

For the 2009 calendar year the Delaware State Police had a total of 8 confirmed infectious disease exposures. In addition, there were a total of 6 cases that did not meet the exposure criteria. However, these incidences were documented and placed in a file.

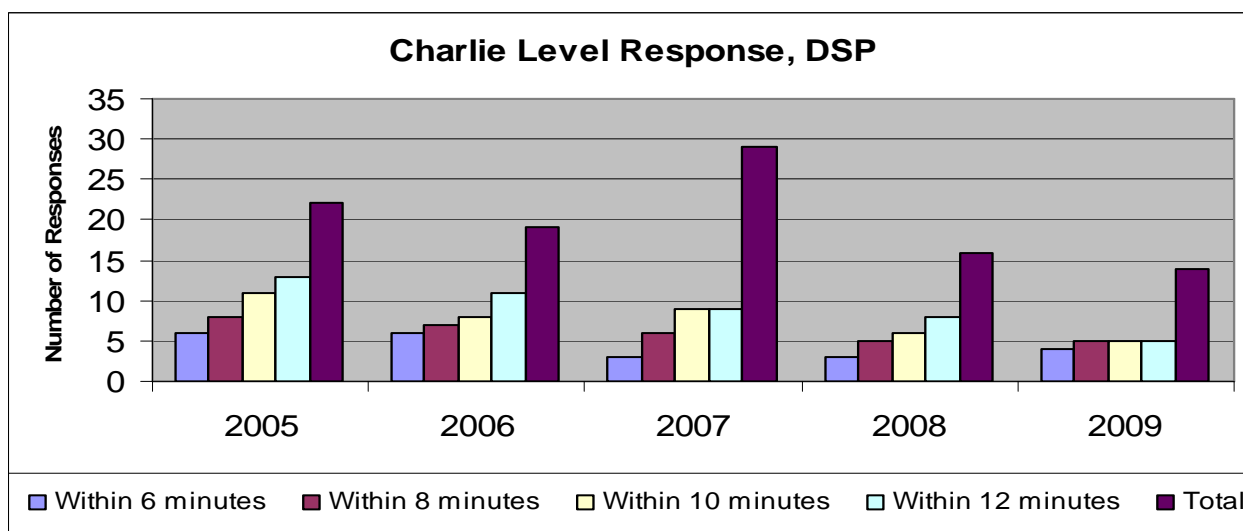
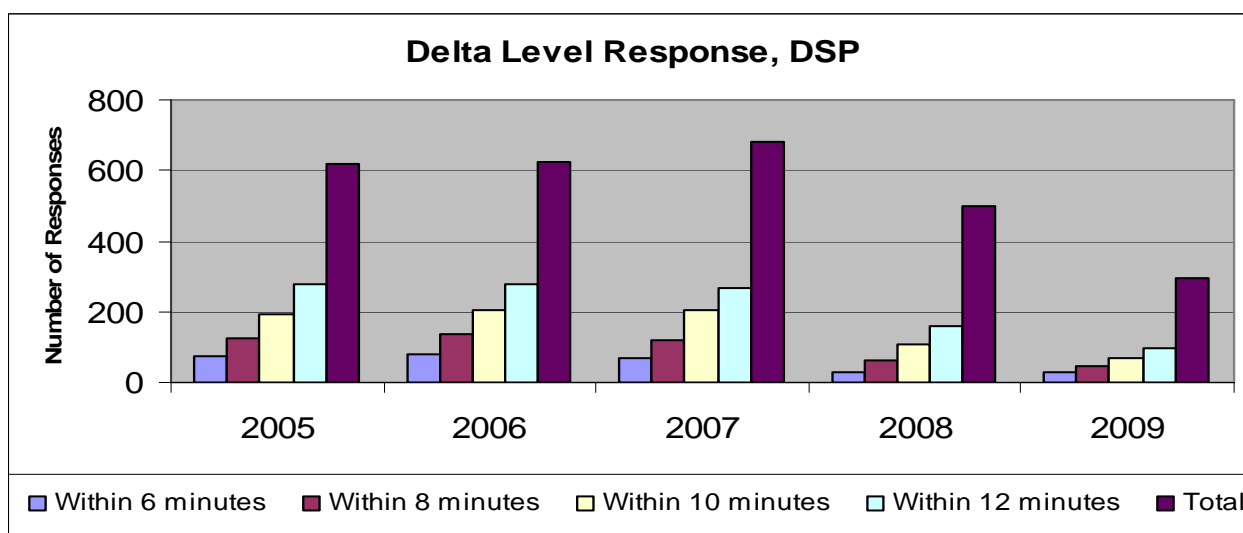
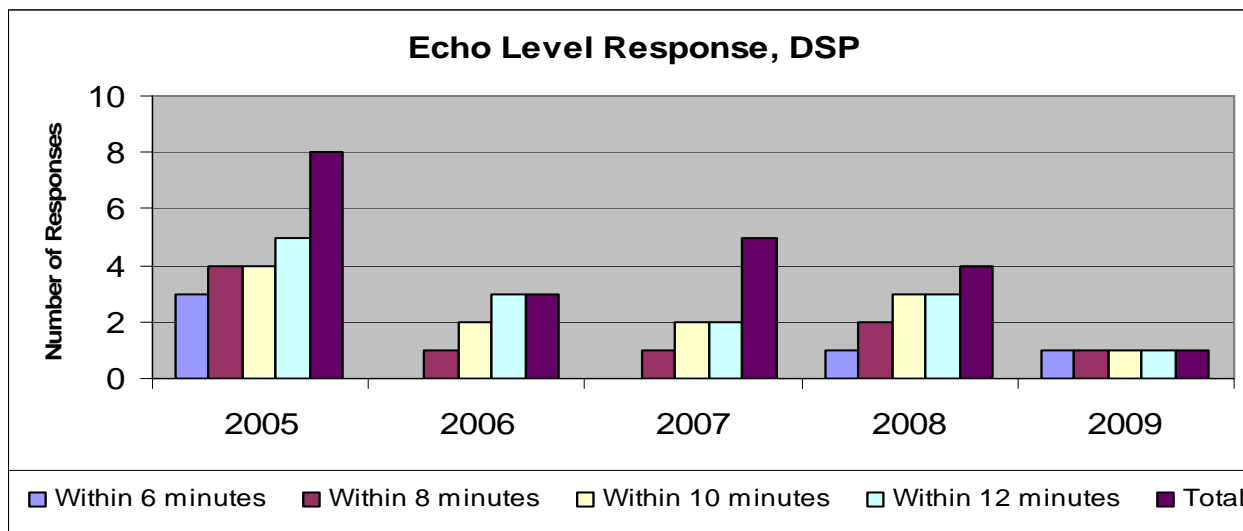
As this is the 10th year of the DEMSOC Report, below are some significant accomplishments from DSP Aviation:

- Through HB 332 Section 22, Paragraph 3 the Automated External Defibrillator (AED) program was instituted.
- The Delaware State Police instituted an Infectious Disease Program
- Special Operations Response Team (SORT) and Emergency Ordinance Disposal (EOD) teams were formalized and a Tactical Paramedic was attached.
- All Tactical Trooper Paramedics were required to attend the Counter Narcotics and Terrorism Operational Medical Support Program (CONTOMS). Prior to this certification all Tactical Paramedics received no formalized training.
- Council On Police Training (COPT) required all police officers to be First Responder Trained. All of the training was conducted by the Delaware State Police Aviation Section.
- Enhancing the Mission with the Acquisition of the Bell 412. The Bell 412 has a much greater capacity to enhance our operational missions of Air Medical service, Search and Rescue as well as our police function to support our patrol forces.
- In the fall of 2004 DSP Aviation went to a 24/7 Operation.
- DSP Aviation Mandated that crew members use night imaging night systems (NVG's) for visual flight rules operation at night.
- In the spring of 2010 the renovations to our Georgetown Hanger (Trooper-2) will be complete. The renovation includes:

-Refurbished Hanger

-Adding 2000sq ft. of office/living space to include: Ready Room, Kitchen, Two Bathrooms, men's and women's Locker Rooms, Two bunk Rooms Medic/Pilot, Two Offices, Conference Room, Operations Room and a Lobby.





Christiana Care Health System (CCHS)

Lifenet

Submitted by CCHS Lifenet



Christiana Care/LifeNet, with bases in New Castle and Sussex County completed 433 flights in 2009. Of the 433 total flights 404 were interfacility, and 29 were scene calls. LifeNet receives flight requests from Delaware, New Jersey, Pennsylvania, Maryland and Virginia with a referral base of over twenty hospitals.

As primarily critical care transport, 6-1 and 6-4 offer a variety of mission profiles that include intra-aortic balloon pump, ventricular assist device, NICU assist, invasive line monitoring, along with medical, trauma, pediatrics and high risk ob flights.



Prevention



171 Injury Prevention



182 Burn Camp



183 Safe Kids



184 SNAP



185 First State, First Shock!



187 CODES



190 Infectious Control

Page Left Blank Intentionally

Delaware Coalition for Injury Prevention

The following 9 pages were submitted by the teams of the Injury Prevention Coalition

Injury prevention includes prevention awareness and public education. This is the role of the injury prevention component of the Delaware Trauma System. The goal of the Trauma System is to decrease death and disability from injury. In Delaware in 2009, **104 persons died instantly from their injuries**. No amount of Trauma System resources, specialists, organization, or planning could have saved these lives. The solution to effectively decreasing this kind of injury death lies in prevention of the injury entirely, or in decreasing its intensity through safety measures such as wearing seatbelts or decreasing speed. Only by teaching people to make safer choices and to use safer habits can the number of these scene deaths be decreased. Injury prevention addresses the public education needs that can impact the statistics on scene deaths, as well as decrease the numbers of injured overall. In response to Delaware Title 16, Chapter 97's public information, prevention, and education mandate, the Office of EMS staffs the *Delaware Coalition for Injury Prevention* and the *Safe Kids Delaware* program.

Despite the fact that many injuries and acts of violence are preventable, they continue to be the leading killer of Americans in the first four decades of life. From 1992 through 2006, injuries were the leading cause of death of Delawareans between the ages of 1 and 44 years. Injuries were the 5th leading cause of death for Delawareans of all ages. This translates to an **average of one injury-related death each and every day in our state** (Delaware Health Statistics Center). The Delaware Trauma System estimates that in a 12-month period, **over 91,000 people** seek treatment at Delaware hospital Emergency Departments for injuries. Injury and violence in a single year will ultimately cost the nation \$406 billion - \$80.2 billion in medical costs (6% of total health expenditures) and \$326 billion in lost productivity (State & Territorial Injury Prevention Directors Association). Throughout the lifespan, Americans are at risk for disability or death due to injury. No age is a "safe" age when it comes to injury and violence. Injuries have associated risk factors which can be predicted and modified. Therefore, injuries must not be viewed as random accidents, but as **preventable occurrences in need of organized efforts to save lives**.

HISTORY AND CURRENT STATUS OF DELAWARE INJURY PREVENTION

In 2001, a group of individuals representing Delaware organizations active in injury prevention came together to form a *Coalition for Injury Prevention* under the auspices of the Division of Public Health, Office of Emergency Medical Services. This program is committed to supporting statewide injury prevention efforts through data analysis, training and technical advice, developing community partnerships, encouraging interventions at multiple levels, and determining the effectiveness of interventions through evaluation.

In order to give direction to this collaboration, the Coalition developed a five-year *Strategic Plan for Injury Prevention* in 2005. The purpose of this Strategic Plan is to provide a framework for injury prevention efforts and their development in Delaware. The Plan addresses the nine major causes of injury and disability in Delaware – falls, motor vehicle crashes, traumatic brain and spinal cord injuries, suicide, poisoning, fire injuries, dog bites, firearm injuries, and drowning and water injuries. A plan for each focus area was developed by teams of Coalition members - professionals and citizens with experience in each area. Because injuries have modifiable risk factors that can be predicted systematically, the teams used the public health approach to define

and identify risk factors for each topic area. They identified goals, objectives, action steps, and evaluation methods to aid in effectively addressing the problem of each injury focus area. The Coalition teams are currently working on updating and revising their action plans.

The Coalition's goal is that through this strategic plan, its vision of safe communities in Delaware will be realized, as measured by fewer injuries, fewer risk-taking behaviors, safer environments, and reduced incidence of injury-related disabilities. Through effective surveillance, partnerships, interventions, training, and evaluation, the Coalition's goal is to teach Delawareans that injuries are preventable so they will choose to reduce their injury-related risks.

A DECADE OF ACCOMPLISHMENTS

The Coalition for Injury Prevention began meeting on a quarterly basis in 2004. Approximately 37 agencies from over the entire state are members. Despite loss of Centers for Disease Control funding, the Coalition has continued working to fulfill its mission of protecting Delawareans from injury through education. The following pages summarize highlights of the work of the individual teams of the Coalition for Injury Prevention. Several outstanding multi-team projects are described – the Senior Aquatic Exercise Falls Prevention pilot program, the 19802 and 19933 Community Injury and Violence Prevention projects, and the Traumatic Brain Injury Prevention Media Contest program for high school students. In addition, the Office of EMS in collaboration with the University of Delaware College of Health and Nursing Sciences developed an online Basic Injury Prevention Practitioners Course which can be found at <http://www.udel.edu/DSP/ipbc/>. To date, more than 100 people from across the United States and around the world have taken the online course.

INJURY PREVENTION CHALLENGES

The first and most obvious challenge to injury prevention efforts is to be successful, meaning--- to get the message to the public in such a way that injuries and injury-related deaths actually decrease. Use of data is critical. Data should be scientifically analyzed and then used to identify at-risk populations. Injury prevention interventions should be evaluated to determine the effectiveness of the programs utilized. And baseline data should be monitored to determine trends over time. Dedicated expert analysts and injury epidemiologists are needed to guide and evaluate prevention efforts through data analysis and interpretation. Funding is needed in order to obtain this support. The Coalition for Injury Prevention aims to facilitate networking among agencies interested in working on the same projects or with the same populations. Networking decreases costly duplication of effort and stretches scarce resources. Although prevention has been proven to save not only lives, but healthcare dollars, it is low in the political hierarchy and there is little monetary support available. This is despite research showing that a \$31.00 child booster seat on average saves society \$2,200.00 in healthcare and other related costs. A midnight driving curfew combined with provisional licensing for teens yields an estimated cost savings of \$600.00 per child at a cost of only \$74.00 and a zero tolerance law for drivers under age 21 yields a cost savings of \$850.00 per driver at a cost of just \$34.00 each (Children's Safety Network/EDARC/PIRE). Injury prevention is important work. The Coalition for Injury Prevention operates on the good will of member agencies and their representatives. So much more could be done with adequate funding. So many more people could be reached, so many more lives saved.

Delaware Coalition for Injury Prevention
Poisoning Injury Prevention Team



The Poison Control Center

Team Leader: Kevin C. Osterhoudt, MD, MS

Member Agencies: The Poison Control Center at The Children's Hospital of Philadelphia, Delaware Risk Watch, Safe Kids Delaware.

Key Objective: The Poison Control Center is a non-profit public health organization, certified by the American Association of Poison Control Centers, with these missions:

- Provision of a free 24-hour public poisoning-assistance hotline to guide families in crisis
- Provision of regional toxic epidemic surveillance
- Provision of expert toxicological information to public health, governmental, and public news broadcast agencies
- Dissemination of community poisoning prevention education
- Provision of expert toxicology information and education to health care professionals
- Participation in toxicological research.

Key Accomplishments: At the direction of the legislature, the Division of Public Health enters into a contract with The Poison Control Center at The Children's Hospital of Philadelphia each year so as to make poison control services available without charge to the citizens of Delaware.

The Poison Control Center provides poisoning prevention outreach to the public and also offers a schedule of professional continuing medical education. The Federal Institute of Medicine has reported that poisoning is the 2nd leading cause of injury-related death within the United States, and that poison control services are cost-effective by saving \$7 for each \$1 invested. More recent estimates have suggested that number may be closer to \$14 saved for each \$1 spent today. The Poison Control Center promotes the use of the national Poison Help Hotline number, 1-800-222-1222, which provides a toll-free connection to the appropriate regional poison control center when dialed from Delaware or anywhere within the United States.

Educational materials were provided to agencies in Delaware through various venues. The phone hotline assistance was provided to families in Delaware with concerns related to potential or actual poisoning episodes. In 2007, the Poison Control Center received 8,393 calls from Delaware and was able to manage 60% of human exposures at home without burdening the state's other emergency medical systems.

When advanced medical care was needed, the clinical toxicologists at the Center provided over 1,700 consultations to Delaware health care providers. The top five toxicants involved in these consultations were: analgesic drugs, sedative-hypnotic drugs, antidepressant drugs, cardiovascular drugs, and cleaning agents. In 2007 the Center also played a critical role in identifying and monitoring a regional fentanyl-tainted heroin epidemic, and in responding to public concerns regarding the highly publicized lead contamination of toys.

Delaware Coalition for Injury Prevention

Fall Prevention Team

Team Leader: Peggy Mack, Ph.D.

Member Agencies: Bayhealth Medical Center, Beebe Medical Center, Christiana Care Health Services, Division of Services for Aging and Adults with Physical Disabilities, Foulk Manor North, Ingleside Homes, Inc, and Milford Parks and Recreation.

Key Accomplishments: Senior Fall Prevention Aquatic Exercise Classes, Fall Awareness Programs, and Public Service Announcements

In 2007 and 2008, a Senior Aquatic Exercise Fall Prevention project was piloted with over 50 seniors. In the 2008 program, 30 participants in a water exercise group and 20 participants in a land-based exercise group completed one-hour exercise classes twice a week for six weeks. Pre- and post- assessments documented significant, positive changes. Most importantly, there was a decrease in falls among the group.

The success of the Senior Aquatic Exercise Fall Prevention project has been shared in various venues, such as the Third Annual Healthy People State Coordinators' Workshop in Washington DC and the State and Territory Injury Prevention Directors Association's 2007 national meeting. This project was recognized by the federal Administration on Aging with their 2008 Program Champion award. Also, the Delaware Coalition for Injury Prevention received the 2008 Delaware Trauma Symposium Christiana LifeNet Research Award for its research poster and abstract, *Water Exercise Pilot – An Innovative and Effective Modality to Prevent Falls*.

Although funding was a challenge in 2009, there are over 100 seniors on the waiting list for the Senior Aquatic Exercise Fall Prevention project and implementation is planned for the summer of 2010. The team has done additional outreach on fall prevention through public service announcements and partnering with advocacy groups, such as the Delaware Ecumenical Council on Children and Families. Below, seniors are ready for an exercise class to begin.



Delaware Coalition for Injury Prevention

Suicide Prevention Team

Team Leader: Elizabeth McCourt, J.D.

Member Agencies: ContactLifeline, Inc., Mental Health Association of Delaware, NAMI (National Alliance on Mental Illness) of Delaware, New Directions Delaware

Key Accomplishments:

Member agencies have collaborated on many suicide prevention activities as part of the Garrett Lee Smith Youth Suicide Prevention Award to Delaware. The Delaware State Suicide Prevention Coalition (DSPC) sponsored the grant for Project LIFE activities throughout 2009. Activities included:

- Gatekeeper trainings
- Publication of quarterly newsletters and youth suicide prevention toolkits
- The Youth Suicide Prevention Network (YSPN), a high school peer to peer program
- A telephone transfer connection between ContactLifeline and Child Mental Health
- The launch of a website portal for youth suicide prevention information and activities, www.delteenspace.org

Contact Lifeline maintains its accreditation status as Delaware's only American Association of Suicidology accredited affiliate of the National Suicide Prevention Lifeline Network. In 2009 ContactLifeline's Crisis Helpline received over 26,000 calls from individuals in Delaware and connected callers with intervention and counseling resources. In September, ContactLifeline also launched www.delteenspace.org - an interactive suicide prevention website for teens and adults supporting teens. The website has an online resource database of over 2500 community resources and has received over 25,000 visits.

In 2009 Mental Health Association of Delaware published quarterly newsletters for Project LIFE and more than 10,000 Youth Suicide Prevention toolkits for Delaware schools and youth organizations. They also provided gatekeeper trainings using Applied Suicide Intervention Skills Training (ASIST), Question, Persuade, and Refer (QPR), and Campus Connect to 319 people.

The Delaware State Suicide Prevention Coalition's [Delaware Suicide Prevention Plan](http://www.contactlifeline.org/suicide_prevention.html) may be accessed at http://www.contactlifeline.org/suicide_prevention.html



Delaware Coalition for Injury Prevention

Burn Injury Prevention Team

Team Leaders: Susan K. Givens, Richard R. Ward, John F. Lattomus

Member Agencies: Delaware State Fire Marshal's Office

Key Accomplishments:

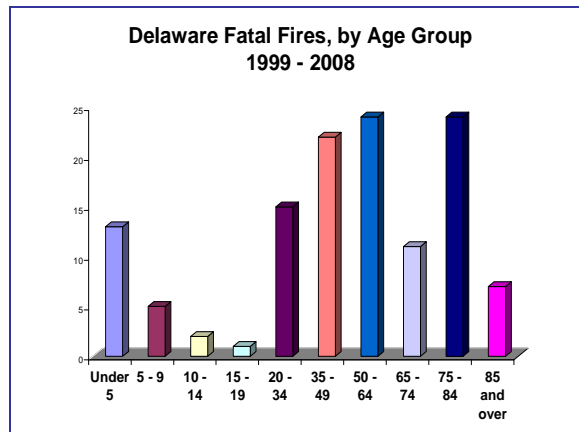
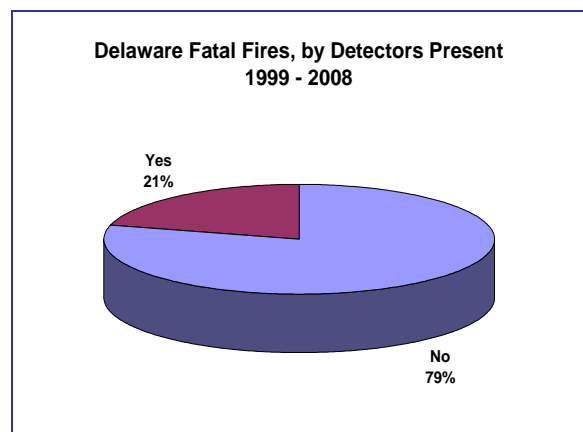
The State Fire Marshal's Office's primary prevention projects are - continuing to monitor the Reduced Ignition Propensity Cigarette Law (R.I.P.C.) and continuing to increase the public's awareness about, and proper use of, smoke alarms.

On January 1, 2009 the state law mandating Reduced Ignition Propensity Cigarettes (R.I.P.C.) became effective. This law was aimed at decreasing the number of cigarette-caused fires in Delaware. The State Fire Marshal's Office noted a significant decrease in the number of deaths caused by cigarette fires. Six smoking-related deaths occurred in Delaware in the year 2007, as monitored by the State Fire Marshal's Office. Two smoking-related fire deaths occurred in both 2008 and 2009.

The State Fire Marshal's Office has seen a decrease in the number of fire deaths. However, the number of homes not equipped with early warning detection devices or working smoke alarms remains high for the number of fire deaths, despite continued public education efforts and requirements for smoke alarms in homes. In 2007, the State Fire Marshal's Office documented twelve fire-related deaths with only one home equipped with a working smoke alarm. In the year 2008, seven fire deaths were documented with three homes equipped with a working smoke alarm, and in 2009, there were seven fire deaths with only one home with a working smoke alarm.

The Fire Service will continue their efforts to increase the public's understanding of the importance of early detection and warning of fire through public displays and presentations, and planned smoke detector give-away programs organized by the local fire departments throughout the state.

Data below courtesy of the State Fire Marshal's Office:



Delaware Coalition for Injury Prevention

Drowning and Submersion Injuries Prevention Team

Team Leader: Jennifer Whaley, RN

Member Agencies: American Red Cross of Delmarva Peninsula, Emergency Medical Services for Children – Office of EMS – Division of Public Health, Delaware State Fire School, City of Milford Parks and Recreation, Kent County Department of Parks and Recreation Administration, Beebe Medical Center, Sussex County EMS

Key Accomplishments:

Drowning prevention efforts over the past years included public education activities by team member agencies:

Beebe Medical Center and Sussex County EMS worked together to educate the public on the risks for injury around the beach and swimming pools. Warning signs were placed on the boardwalk and information about the rise in injuries was provided in multiple forums. The public education program at Beebe helped reduce the number of surf injuries, including spinal fractures from the surf. Beebe Medical Center identified 294 surf related injuries and 12 spinal fractures in the 2005 season from May through September. In the 2007 season there was a reduction in surf injuries to 175 with only two spinal fractures.

The Kent County Division of Inspection and Enforcement created a Pool Safety DVD in collaboration with Kent County EMS. The DVD is given to the public when application is made for a new home swimming pool permit. The DVD was also shown in public injury prevention forums throughout the year. Kent County gave approximately 400 Pool Safety DVDs to the public. There were two water-related injuries in Kent County in 2007, neither in a swimming pool.

In 2008, the federal Virginia Graeme Baker Pool and Spa Safety Act was enacted to prevent public pool-related injuries and drowning deaths in children by requiring the use of proper devices such as anti-entrapment drain covers and fences/barriers, establishing a grant incentive program to encourage states to enact comprehensive pool and spa laws, educating the public about drowning prevention, establishing a federal swimming pool and spa drain cover standard, and ensuring public pools are equipped with proper safety devices. The Drowning Prevention Team monitored the legislation, which went into effect in December of 2008. Division of Public Health representatives are working to incorporate the law into the State of Delaware regulations governing public pools and to determine how the law will be implemented in Delaware.



Delaware Coalition for Injury Prevention

Motor Vehicle Crash Prevention Team

Team Leaders: Sean Elwell, RN, Virginia Corrigan, MSN, RN

Member Agencies: Alfred I duPont Hospital for Children, Bayhealth Medical Center (Milford and Kent Campuses), Beebe Medical Center, Christiana Hospital Trauma Program, Delaware State Police, Division of Motor Vehicles, Division of Public Health- Office of Rural Health, Nanticoke Memorial Hospital, Office of Highway Safety, State Farm Insurance.

Key Accomplishments:

Graduated Driver License Law - The Graduated Driver License (GDL) Law mandates that all sixteen-year-old drivers have driver education followed by adult supervision, limited passengers, and specific hours of driving experience for one year. This law has significantly decreased the number of deaths, injuries, and motor vehicle crashes sustained by novice drivers (see graph). This GDL law is the basis for the STAND UP Bill sponsored by Congressman Michael Castle, requiring all states to pass a GDL Law with Delaware's law as a template.

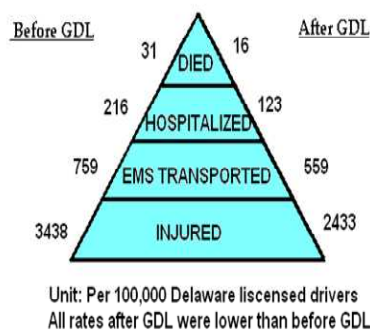
Graduated Driver License Parent Orientation Program - The free GDL Parent Orientation Program is offered to parents and teens by the Office of Highway Safety and its partners. Division of Motor Vehicles staff explains the GDL law. Parents and teens are educated about the GDL process by staff from either the Office of Highway Safety or the University of Delaware Cooperative Extension. State Farm Insurance agents describe the increased liability with a teen driver. ThinkFirst trauma nurses discuss the medical consequences of crash-related injuries. Delaware State Police Crash Reconstruction Unit Officers review fatal crash scenes due to inexperience or risky teen driving.

High Visibility Enforcement Campaigns - High Visibility Enforcement Campaigns reduce motor vehicle crashes through increased public awareness and enforcement. In 2009, officers involved in DUI (Driving Under the Influence) Enforcement or *Checkpoint Strike Force* arrested 614 impaired drivers. *Click it or Ticket* and other seat belt enforcement campaigns resulted in 3,261 arrests throughout the year. The *Stop Aggressive Driving Campaign* resulted in 7,620 arrests. In addition, police arrested 102 violators of child passenger safety laws during *National Child Passenger Safety Week*.

Holiday Mocktail Parties - Mocktail events were held throughout the state to encourage participants to have a "Safe and Sober Holiday." The Office of Highway Safety and its partners offered pamphlets, recipes, and safety literature along with non-alcoholic beverages and high protein foods. Nine mocktail events were conducted, reaching over 1,500 people, and 900 people pledged to be designated drivers through the *Hero Campaign*.

Child Passenger Safety - Child Safety Seat Inspection Stations are based at A.I. duPont Hospital for Children, Christiana Hospital, and the Division of Motor Vehicles, in partnership with the Office of Highway. Community groups and organizations have also held child safety seat check up events through the year. In 2009, 2,844 child safety seats were checked and of these, 794 seats needed correction.

Burden of Injury for 16 and 17-Year-Old Drivers Involved in MVC



Delaware Coalition for Injury Prevention

Traumatic Brain Injury (TBI) and Spinal Cord Injury (SCI) Prevention Team

Team Leader: Virginia R. Corrigan, MSN, RN

Member Agencies: Christiana Care Trauma Program, University of Delaware College of Health/Nutrition Sciences, Division of Aging/Adults with Physical Disabilities, State Council for Persons with Disabilities Brain Injury Committee, Brain Injury Association of Delaware

Key Accomplishments:

ThinkFirst Delaware: These best-practice injury prevention programs have served Delaware for 17 years. During the ThinkFirst Chapter Directors Conference in June, 2009, the National ThinkFirst Foundation and its Board of Directors recognized ThinkFirst Delaware as the State Chapter of the year for *outstanding commitment to injury prevention*. Since 1993, we have given 3,168 presentations reaching 146,760 teens and young adults. Annual, pre- and post-tests have indicated significant increases in knowledge, changes in attitude and beliefs, and positive changes in behavior, such as seat belt use. In the past 10 years, ThinkFirst Delaware volunteers distributed and properly fitted 1150 multi-use helmets for at-risk children and pre-teens.

Partnerships:

ThinkFirst Delaware nurses participate in the Graduated Driver License Parent Orientation Program. These nurses explain adolescent development, care of the critically injured and possible injuries after a crash.

Members of the TBI/SCI team assist in the planning and professional continuing education hours for the annual conference sponsored by the Brain Injury Association of Delaware. This conference brings updated information on brain injury prevention and treatments to clinicians, advocates, and brain injury survivors.

Members of the TBI/SCI team also assist with the Annual Trauma Symposium. This state-wide effort partners with all trauma programs to provide education on current clinical best practices for trauma treatment team providers.



After a successful 2009 pilot in a Philadelphia high school, the TBI Media Contest and Study is currently being conducted throughout the state of Delaware. The purpose of this project is to increase teens' awareness of their own vulnerability for TBI, to empower teens to be proactive in prevention efforts, and to explore the impact of contests on teens' attitudes and beliefs about TBI. This research project surveys teens before and after a short video of nurses and TBI survivors discussing the causes and effects of TBI. Students are then offered the opportunity to develop Public Service Announcements about injury prevention focused on reaching teens. Stayed tuned for next year's data results!

Delaware Coalition for Injury Prevention

Violent Injury Prevention - Assault, Firearm, and Homicide - Team

Team Leader: Captain John R. Evans

Member Agencies: Beebe Medical Center, ContactLifeline, Delaware State Police, Department of Natural Resources & Environmental Control, Domestic Violence Coordinating Council, Kent and Sussex County Emergency Medical Services, Nanticoke Memorial Hospital, People's Place II, Inc., and Wilmington Hospital.

Key Accomplishments: "Helping a Village Protect its Children" in zip codes 19802 & 19933:

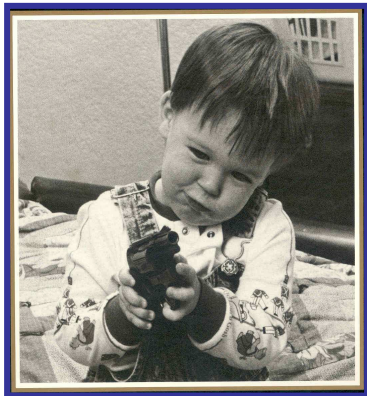
The Coalition and its teams were contacted to help address injury and violence prevention in two zip codes, 19802 in Wilmington and 19933 in Sussex County. Firearm safety information, gun locks, and personal safety information were distributed through community health fairs.

In 2008, a safety survey was conducted with the support of the 19802 community's service agencies to identify leading safety concerns among the residents. The items of most concern to residents were (1) drugs and alcohol, (2) guns, (3) speeding cars, and (4) crime and violence. A grant from Jewish Family Services led to the implementation of an education program by the Coalition team members and Kingswood Community Center. Education was provided on the dynamics of violence, the impact of sexual and domestic violence on children, and the resources available to victims and their families in the 19802 community. Fifteen community leaders participated in this "train the trainer" program; these leaders continue to share the program's information throughout their community.

The Delaware Coalition for Injury Prevention received the 2009 Delaware Trauma Symposium, Christiana LifeNet Research Award for its research poster and abstract, *Triangulating Community Perceptions with Crime Data and Trauma Registry Data*. This same research was chosen for presentation at the national State and Territory Injury Prevention Directors Association conference.

Distribution of a safety questionnaire is planned at the 19933 community's Spring Safety Health Fair. Meanwhile, the team is continuing its drive to have students sign the Student Pledge Against Gun Violence. Overall, the number of students signing pledges more than doubled from the prior year. It is hoped this will increase as the pledge drive continues throughout the state.

The team has been active in the Cape Henlopen 9th Grade Campus Safety Fair and received 155 student pledges on May 14, 2009. The next week, in a Women's Health Fair located in the 19933 zip code, team members shared information with approximately 50 women. Brochures were distributed on domestic violence, teen dating violence, and sexual abuse. Team members re-visited the 19933 community center via the Summer Youth Program, attended by children ages 5 to 17. On July 28, 2009, the "Eddie the Eagle" firearm safety program was shared, along with information on bullying, teen dating violence, and sexual assault awareness. The older teens met with two SANE (Sexual Assault Nurse Examiner) nurses regarding sexual abuse and received resource information. 22 more children signed the Student Pledge Against Gun Violence in the 19933 community at this event.



Delaware Coalition for Injury Prevention

Dog Bite Prevention Team

Team Leaders: Cynthia Martin, Scott Vogel

Member Agencies: Mispillion Kennel Club, Literacy Education Assistance Pups, Independent Humane Education

Key Accomplishments:

Members of the Mispillion Kennel Club (MKC) brought their own dogs to a variety of programs in Sussex County to demonstrate obedient, well-trained canine companions. MKC promoted responsible pet-ownership through community outreach programs and teaching dog training classes. Literacy Education Assistance Pups (LEAP) taught pet safety to children as a routine segment of the reading assistance program. Through both agencies, the Canine Good Citizenship program was supported as a means of learning both responsible pet ownership and safety.

Independent Humane Education provided programs that focused on prevention of animal cruelty and animal safety in terms of “respect for all living creatures.” There is growing evidence of a link between animal abuse and other violence, including domestic and child abuse.

The prime age group targeted for dog bite safety messages are those children in pre-school through fourth grade. The children who had the opportunity to participate in Humane Education programs gained important skills and information. Adults who participated in Responsible Pet Programs gained a better understanding of their essential roles in ensuring the safety of children and their pets.

Through dog training classes and community outreach programs, children and adults were taught how to greet a dog, how to be safe around animals, and to demonstrate respect for all living creatures. The importance of developing well-trained, socialized pets was stressed.

A variety of dog groups in Delaware participated in community programs. American Kennel Club affiliates held programs during the year to promote Responsible Dog Ownership. Independent groups held training sessions and programs for dog owners and non-dog owners that benefited both groups.



Delaware Burn Camp Corporation

Submitted by the Delaware Burn Camp Corporation



Coordinators:

Joanne Hutchinson, Robert Locklear, Bonnie King, Bonnie Cahall

The Delaware Burn Camp Corporation is a non-profit corporation sponsored by the Delaware State Fire Prevention Commission. The purpose of the camp is to establish a site to help young people who have suffered burns deal with the physical and emotional issues arising from such injuries. In 2009, the Delaware Burn Camp Corporation established the **FIRST** burn camp in Delaware.

Project Description:

The Delaware Burn Camp complies with House Bill No. 44 which authorizes the State Fire Prevention Commission to incorporate a non-profit corporation for the purpose of establishing, administering and operating an overnight camp devoted to helping young people who have suffered severe burns deal with the physical and emotional issues arising from such issues.

Project Outcome:

The first Burn Camp was held August 16, 2009 through August 22, 2009 at Camp Barnes located in Roxana, DE. Six burn survivors, two from each county, attended the week-long camp. Children attending the camp participated in many planned activities which included swimming, canoeing, crabbing, horseback riding, games, and night time movies. The 2009 Burn Camp was successful and allowed the children to bond with other children who face the same challenges.



Safe Kids



Safe Kids Delaware is a non-profit organization established in 1989, comprised of volunteers dedicated to reducing unintentional childhood injury in children from birth to age 14. The Delaware Division of Public Health serves as the lead agency. An affiliate of the Safe Kids Worldwide Campaign®, we are a state coalition, led by a board of directors, with active chapters in each county. Safe Kids Delaware achieves its mission by partnering with many like-minded agencies - members of our Coalition. We work personally with the Department of Education, Parks and Recreation, various Delaware hospitals, Emergency Services providers, the Consumer Product Safety Commission, the Office of Highway Safety, Delaware State Fire Service and the University of Delaware Cooperative Extension.

Unintentional injury is the leading cause of death and disability to our most precious resource, our children. The mission of Safe Kids is to work to prevent accidental injury to children under 14 years of age. This is accomplished by raising awareness of current preventable injury issues in Delaware, educating individuals in injury prevention strategies, and motivating people to share the vision of an injury-free life for all children.

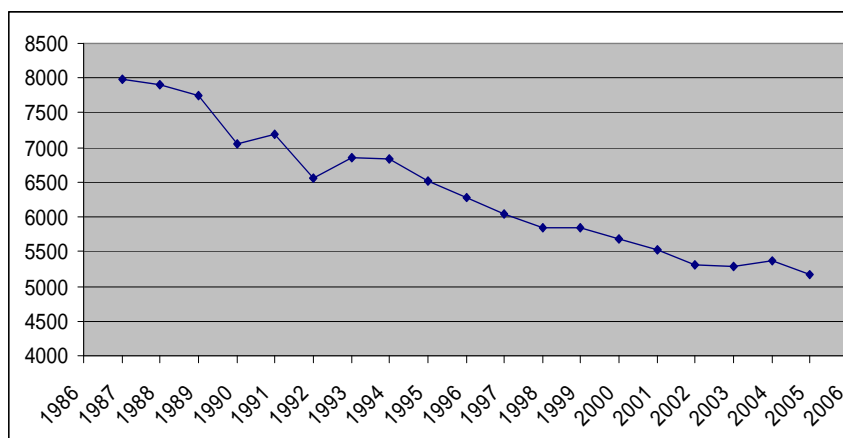
In 2009, Safe Kids Delaware participated in 248 Health Fairs, safety camps, classes and events in various area schools, businesses and communities reaching approximately 32,438 children and their families; 21 Bike Rodeos, distributing 219 helmets; held several Safe Kids Days throughout the state reaching 3,500 children and their families, and 809 children learned to Walk this Way Safely to School. Safe Kids and partners checked 3,363 child safety seats and corrected 1,089 child safety seats. ThinkFirst for Kids reached 1,170 elementary and middle school children, and pre- and post-tests showed a significant increase in knowledge, change in attitude, and increase in safety behaviors. Our Annual Safe Kids - EMSC Conference had 90 attendees.

Safe Kids Worldwide demonstrates in the following graph the significant declines in injury-related death rates since they were founded in 1987.

Unintentional Injury-Related Death Rates: In 1987, there were 7,986 unintentional injury deaths among children less than 14 years of age. In 2005, there were 5,162 unintentional injury deaths among children less than 14 years of age.

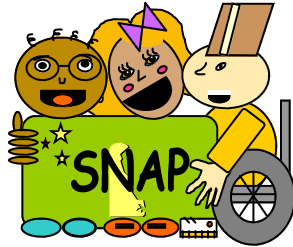
1987 – 2006 Unintentional Injury Deaths, Ages 0 to 14, United States

From 1987 – 2006 there has been a 45 percent decrease in unintentional injury deaths rate.



Special Needs Alert Program

SNAP



The Special Needs Alert Program (SNAP) recognizes children with special medical needs child when the family calls 911. Since 2004, parents/guardians have enrolled over 181 children in SNAP statewide. Part of enrollment is completing a set of forms which includes a consent form giving permission to share medical information with local EMTs and paramedics so they can access it on the way to, or prior to an emergency call. Once paperwork is completed, the information is entered in a secure SNAP electronic data base located in the Office of EMS. The child's medical information is given to the 911 dispatch center, the county based paramedic service and the local fire company upon enrollment and is made accessible to responding units.

Currently there are 181 children enrolled throughout the state, with 98 enrolled in Kent County, 59 in New Castle County and 24 in Sussex County. For the agencies that choose to participate, medical information is kept in secured notebooks on ambulances and for other agencies it is on secure laptops in their units for quick reference in route to the scene of an emergency. Fifty percent of the ambulance agencies in Delaware are participating at this time. The medical information is also made available to the receiving hospital emergency department.

The program was evaluated and deemed effective in a small sample of 17 parents/caregivers surveyed by the University of Delaware Center for Disabilities Studies in 2006. At that time only 32 children were enrolled in the program. In 2009, another survey of 62 families (out of 120 families participating in 2009) was conducted and results show once again, that both families and responders are mostly satisfied with SNAP. Survey results also highlight the need to provide more education to providers on how to care for children with special health care needs. From the fall 2009 survey demographic information it appears that SNAP has been successful in reaching a wide variety of families with various medical conditions statewide. The program is promoted mainly by pediatricians, school nurses and EMS agencies.

SNAP is currently funded by grants from the Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau and the Assistant Secretary for Preparedness and Response, Hospital Preparedness Program Cooperative Agreement. The program is managed within the Office of EMS through a contract with Easter Seals Delaware and Maryland's Eastern Shore.

First State, First Shock!

CPR and AED Program

The Delaware Office of Emergency Medical Services (OEMS) is charged with “coordinating a statewide effort to promote and implement widespread use of semi-automatic external defibrillators and cardio-pulmonary resuscitation...” (DelCode Title 16, Chap 97)



The Public Access Defibrillation (PAD) program *First State, First Shock* was established in 1999 through support and funding from the Health Fund Advisory Committee. The lead agency for the *First State, First Shock* program is the Office of Emergency Medical Services and are committed to the following goals:

- Decreasing death and disability in Delaware by decreasing time to defibrillation in cardiac arrest patients
- Promoting heart health and early detection of the signs and symptoms of heart attack
- Increasing public accessibility to Automatic External Defibrillators within the state
- Increasing the number of Delawareans trained in Cardio-Pulmonary Resuscitation (CPR) and AED use
- Insuring First Responder and police vehicles are AED equipped
- Tracking outcome to guide future efforts

Increasing survivability of cardiac arrest victims is the primary goal of the *First State, First Shock* program. This is accomplished by increasing the number of Automatic External Defibrillators (AEDs) available and the strategic placement of the AEDs for enhanced accessibility by the general public.

Key initiatives for 2009 were:

- Continue decreasing the PAD waiting list and continue working with the manufacturer to insure all recalled units were accounted for throughout the state.

With funding from the Health Fund Advisory Committee and rural access grants, the Office of Emergency Medical Services has been able to place over 2, 250 AEDs in service for public access, first responders and police agencies since program inception in 1999.

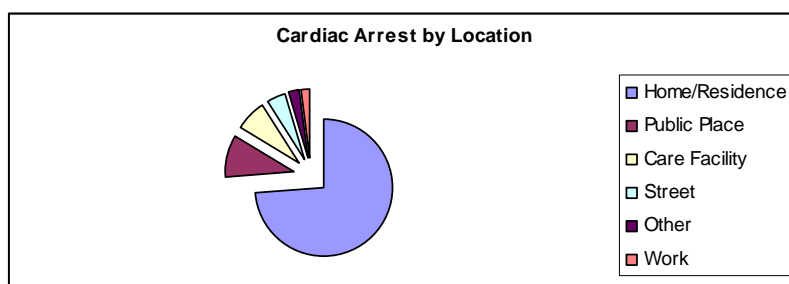
There have been three major challenges to the AED program in 2009:

1. *Over-the-counter sales of AEDs continue to increase.* AEDs are FDA labeled as class III medical devices and thus require a physician authorization or prescription to purchase. One manufacturer markets a device which is FDA approved for direct over-the-counter sale, no prescription required. There are also several safety equipment sales companies operating in

the state who sell AEDs and also provide physician authorization. This is all done with complete disregard for current rules and regulations regarding possessing and using an AED.

2. *The sale of unauthorized AED devices in the state.* State rules and regulations are specific in the type of AED device authorized for possession and use within the state. The rules and regulations are very clear and state that the only AED device authorized for use within the State of Delaware is the semi-automatic type that requires the action of an operator to deliver a shock. Fully automatic devices are not authorized for use in the state due to being a safety hazard to fire and rescue personnel when used in the back of a rolling ambulance. Safety equipment sales companies continue to sell these devices within the state without first reviewing state rules and regulations. Several of the unauthorized devices were discovered by the State AED Project Manager and the manufacturers were required to exchange the devices. There are still a number of these unauthorized devices throughout the state and trying to find them is a daunting task.
3. *Manufacturer/vendor recall.* In January 2007, one of the vendors was ordered by the FDA to conduct a recall of a certain model device of which the state had purchased 456 units. This recall is almost complete with 40 units remaining to be swapped out. This has put a significant strain on OEMS personnel assets.

Cardiac arrest is a primary health issue. Data continues to show that 72% of all cardiac arrests occur in the home. For this reason the Office of Emergency Medical Services continues to make CPR/AED training of first responders and the general public a primary initiative.



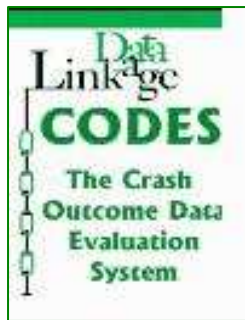
In cardiac arrest patients the current return of spontaneous circulation rate in Delaware is 40%. By continuing to place AEDs with first responders, police and with the general public and continue providing CPR/AED training. The Office of EMS is certain the initiatives will continue to show an increase in the cardiac arrest survival rate in the State of Delaware.

Year	Number of Cardiac Arrests	Patients Pronounced Dead by Paramedics	Patients Transported to Hospital	Patients that Experienced a Return of Spontaneous Circulation
2004	780	170	610	158(26%)
2005	752	185	585	170 (29%)
2006	756	166	590	190 (32%)
2007	756	151	605	215 (36%)
2008	745	117	628	222 (35%)
2009	773	119	654	261 (40%)

Crash Outcome Data Evaluation System

CODES

In 1999, the National Highway and Traffic Safety Administration (NHTSA) awarded the Division of Public Health's Office of Emergency Medical Services (OEMS) a grant to develop a Crash Outcome Data Evaluation System (CODES) in Delaware. The CODES Project is a collaborative effort between several state agencies including the State Police, Office of Emergency Medical Services, Health Statistics Center and Office of Highway Safety. Many types of data (e.g., demographic, injury severity, hospital charge, etc.) are collected from these agencies and are linked, analyzed and publicized so that state agencies, policymakers and the public can better understand the causes and impacts of motor vehicle crashes. With this information, the Division of Public Health can create and prescribe prevention programs with demonstrated potential for improved outcomes.



In Delaware CODES system, there are ten years of linked data from 1998 and 2007.

1. Impacts on highway safety decision-making

Applications for CODES linked data have been developed around the following subject areas: injury prevention, traffic safety and highway safety research. They included providing reports and fact sheets to support the studies and legislation of highway safety. Table 1 describes the legislative impact on highway safety planning.



Table 1: Delaware Highway Safety Law Chart

Major Highway Safety Legislation Update	Effective Date	Description
Children Restraint Law 21 Delaware Code. § 4803	01/2003	Child Restraint Requirements <ul style="list-style-type: none"> Under 16 Children under 12 years old or less than 66 inches tall must sit in the back seat if there are active airbags in the front passenger seating position. Safety Seat Requirements <ul style="list-style-type: none"> Children's age, weight and height up <u>to</u> 8 years of age <u>or</u> 65 lbs whichever comes first
Driving Under Influence (DUI) Law 21 Delaware Code. § 4177	07/2004	<ul style="list-style-type: none"> Prohibits driving with a blood alcohol concentration (BAC) of .08 percent or above.
	07/2009	<ul style="list-style-type: none"> Increases fines for all DUI offenders particularly 5th and subsequent, also increases chance of jail time for repeat offenders Increases period of license as well as hard license revocation, and mandates the use of Ignition Interlock Devices for six months for 1st time offenders with high BAC levels, limits driving authority on Ignition Interlock Device
Child Helmet Law 21 Delaware Code. § 4198K; 76 Del. Laws, c.289, §§1-5	07/2008	<ul style="list-style-type: none"> Requires 16-17 year olds to wear a conforming helmet when operating bicycles and motorized scooters and skateboards.
Graduated Driver Licensing (GDL) Law 21 Delaware Code. § 2710; 76 Del. Laws, c.289, §§1-5	07/1999	<ul style="list-style-type: none"> Allowed teens to obtain a driving permit at 15 years, 10 months, but lengthened the time of supervised driving from 60 days to one year. It also limited the number of passengers a permit holder could carry to two.
	07/2005	<ul style="list-style-type: none"> Banning the use of cell phones/ testing by teens on their permits and intermediate licenses
	8/2006	<ul style="list-style-type: none"> A three-stage licensing system beginning at age 16 for learner's permit, age 16 years and 6 months for the intermediate stage, and age 17 for full licensure A mandatory 6 month holding period for the learner's permit stage A minimum of 50 hours of supervised practice driving during the learner's permit stage, at least 10 of which must be at night A prohibition on unsupervised nighttime driving between 10 p.m. and 6 a.m. during the intermediate stage A passenger restriction prohibiting more than one passenger during the intermediate stage Add a prohibition on non-emergency use of cell phones during the learner's permit and intermediate stages

2. NHTSA publications

Delaware CODES has participated in the following NHTSA reports.

- Revised Catalog of Types of CODES Applications Implemented Using Linked State Data, NHTSA Report, DOT HS 809 058, June 2000
- Problems, Solutions and Recommendations for Implementing CODES, NHTSA Report, DOT HS 809 200, February 2001
- The Crash Outcome Data Evaluation System (CODES) And Applications to Improve Traffic Safety Decision-Making, NHTSA Report, DOT HS 811 181, August 2009
- Motorcycle Helmet Use and Head and Facial Injuries, NHTSA Report, DOT HS 811 208, October 2009
- Estimating Median Hospital Charge in the CODES Crash Outcome Data Evaluation System, NHTSA Report, DOT HS 811 217, October 2009

3. Research presentations

The following reports were presented at conferences resulting from this program.

- Reduction in Injury Severity and Cost of Treatment with Motorcycle Helmet Use, oral presentation at 2003 Annual Meeting of National Association of Emergency Medical Services Physicians (NAEMSP)
- Reduction in Injury Severity and Cost of Treatment with the Use of Occupant Restraint, poster presentation at 2003 Annual Meeting of National Association of Emergency Medical Services Physicians (NAEMSP)
- Crash and Injury Analysis of Young Drivers in State of Delaware, Traffic Records Forum, July 2004
- Standardizing Fast Sheet Formats for State-Specific and National Purpose, CODES Network Technical Assistant Meeting, August 2004
- Crash and Injury Analysis of Young Drivers in State of Delaware, Delaware Trauma System Committee, September 2003
- Effect of a Graduated Driver Licensing System on the Proportion of Crashes and Injuries Involving Drivers under Age 18, Western Trauma Association 35th Annual Meeting, March 2005
- Support for Passenger Limitation on 16-and 17-year-old Drivers, CODES Network Technical Assistant Meeting, June 2006
- Delaware Aggressive Driving Study, CODES Network Technical Assistance Meeting, June 2007
- Effect of a Graduated Licensing System on Motor Vehicle Crashes and Associated Injuries Involving Drivers Less Than 18 Years-of-Age, Prehospital Emergency Care, Robert O'Connor MD, Glen H. Tinkoff MD, Herman Ellis, MD, Laurie Lin, MA., October 2007
- Injury Comparisons in Motorcycle Crashes, CODES Network Technical Assistance Meeting, June 2009

Infection Disease Control

Infection control refers to policies and procedures used to minimize the risk of spreading infections and reduce the occurrence of infectious diseases. These diseases are usually caused by bacteria or viruses which can be spread by human to human contact; animal to human contact; human contact with an infected surface; airborne transmission through tiny droplets of infectious agents suspended in the air; and by such common vehicles as food or water. Hospitals and pre-hospital medical settings require higher levels of precaution around infectious disease management predominantly due to the higher risk of spreading infectious diseases in these environments.

The infectious control program for Delaware includes pre-hospital care providers (EMTs, paramedics, and first responders), firefighters, and law enforcement personnel. Any of these individuals may request notification concerning an exposure to an infectious disease. Every emergency medical care agency (volunteer or paid) shall designate a designated infectious control officer (DO) who will handle the infectious control process. Delaware is one of the few states that conduct mandatory source testing.

The need for an effective infection control program has always been an essential and integral part of the pre-hospital practice because there is both the risk of healthcare providers acquiring infections themselves and could result in passing infections on to patients. Preventive and proactive measures offer the best protection for individuals and organizations that may be at an elevated exposure to these infectious diseases. Since 1993, Delaware has reviewed 81 potential exposures forms reported by the pre-hospital setting and in 2009 reviewed 15. The table below represents the type of exposures reported in 2009.

<i>Type of Exposure for 2009</i>	<i>Reports</i>
Inhalation: <i>coughing, sneezing, confined proximity</i>	9
Ingestion: <i>splash/spray, hand-to-mouth contact, mouth-to-mouth contact, ect.</i>	3
Percutaneous: <i>medical sharp, hollow-bore needle, bite, ect.</i>	0
Mucocutaneous: <i>medical sharp, hollow-bore needle, bite, ect.</i>	1
Cutaneous: <i>non-intact skin, intact skin with large fluid volume</i>	2

Education and training is required by all agencies yearly to update pre-hospital personnel on infectious disease policies and universal precautions. Increased emphasis is being placed on the educational process to reinforce these issues with pre-hospital medical providers as well as industrial and police agencies. During this training, agencies are given an overview of common diseases that have a potential for transmission.

Protection from the threat of infectious disease is urgent due to constant changes in lifestyles and environments resulting in, new diseases constantly appearing to which people are susceptible. The required equipment lists for ambulances in Delaware now have increased mandatory personnel protective equipment, such as HEPA masks. Alternative products are also being reviewed to help pre-hospital personnel deal with the increased demand of infectious disease protection, such as ways to safely sanitize equipment and ambulances. Delaware also offers assistance to pre-hospital providers to get immunizations against hepatitis, flu, tetanus and tuberculin skin testing.

The need for an effective infection control program has always been an essential and integral part of the pre-hospital practice in Delaware to reduce the spread of infectious diseases to patient and family members by pre-hospital providers.

Designated Infectious Disease Officer Program

During 2009, a new two-page form was developed for reporting an exposure by pre-hospital responders. Page 1 of the form consists of three sections. Section A is completed by the responder and includes information about the route of exposure, body fluids to which the responder was exposed, personal protective equipment used, and medical treatment, if any. Section B is completed by the designated officer who makes a determination whether or not the exposure was significant. Section C is completed by the medical receiving facility, usually a hospital emergency department, and includes post exposure prophylaxis, if indicated, test results of the source patient, notification of the pre-hospital responder, recommendations for treatment and other additional information. Page 2 has a section for a detailed narrative about the incident. It also has a flowchart that provides directions for the pre-hospital responder, the agency's designated officer, and the medical evaluator to follow.

Two training programs were developed for the new form. The first program was a PowerPoint presentation to inform the designated infectious disease officer (DO) how to complete the form and who was responsible for each section. The program also included the responsibilities of the DO and the necessity of writing a policy about infectious disease reporting. The second training program was for the pre-hospital responder and provided information on how to fill out the form and who was responsible for each section. To encourage the pre-hospital responder to complete the training, .5 hour of continuing medical education would be awarded if a test at the end was submitted to OEMS.



REPORT OF POTENTIAL EXPOSURE FORM FOR PREHOSPITAL RESPONDERS

DOC#

SECTION A: TO BE COMPLETED BY THE PREHOSPITAL RESPONDER WITH ASSISTANCE FROM THE AGENCY'S DO (PLEASE PRINT)	
Submitting Agency:	Submitting Agency's Phone #:
Submitting Agency's Designated Officer (DO) Name:	Designated Officer's (DO) Phone #:
Submitting Agency's Address:	
Prehospital Responder's Name:	Prehospital Responder's Phone #:
Source Patient's Name:	Source Patient's DOB:
Location of Incident:	Incident #:
Date of Exposure:	Time of Exposure (24 hr):
Source Patient Transported To:	Date Form Submitted:

What was the Exposure Route?

Inhalation.....	<input type="checkbox"/> Coughing	<input type="checkbox"/> Sneezing	<input type="checkbox"/> Confined proximity (duration: _____)
Ingestion.....	<input type="checkbox"/> Splash/Spray	<input type="checkbox"/> Hand-to-Mouth Contact	<input type="checkbox"/> Mouth-to-Mouth Contact <input type="checkbox"/> Other _____
Percutaneous.....	<input type="checkbox"/> Medical Sharp	<input type="checkbox"/> Hollow-bore Needle	<input type="checkbox"/> Bite <input type="checkbox"/> Other _____
Mucocutaneous.....	<input type="checkbox"/> Nasal	<input type="checkbox"/> Oral	<input type="checkbox"/> Ocular <input type="checkbox"/> Other _____
Cutaneous.....	<input type="checkbox"/> Non-intact Skin	<input type="checkbox"/> Intact Skin with large Fluid Volume (duration: _____)	

Body Fluid Exposure:

<input type="checkbox"/> Blood	<input type="checkbox"/> Urine	<input type="checkbox"/> Feces	<input type="checkbox"/> Sweat	<input type="checkbox"/> Amniotic Fluid
<input type="checkbox"/> Respiratory Secretions	<input type="checkbox"/> Saliva	<input type="checkbox"/> Vomit	<input type="checkbox"/> Other _____	

Personal Protective Equipment (PPE) Used:

<input type="checkbox"/> None	<input type="checkbox"/> Eye Protection	<input type="checkbox"/> HEPA Mask (N95 or better)	<input type="checkbox"/> Surgical Mask
<input type="checkbox"/> Gloves	<input type="checkbox"/> Gown	<input type="checkbox"/> Turnout Gear	<input type="checkbox"/> Other _____

Did you Receive Medical Attention? ☐ YES ☐ NO If YES, Where: _____ Date: _____

*** DESCRIBE THE INCIDENT AND EXTENT OF THE EXPOSURE ON THE BACKSIDE OF THIS PAPER. (BE DETAILED) ***

SECTION B: TO BE COMPLETED BY THE AGENCY'S DESIGNATED OFFICER (DO)	
<input type="checkbox"/> Non-Significant Exposure (document reason why): _____ _____	<input type="checkbox"/> Significant Exposure

Prehospital Responder's Signature_____
Agency's Designated Officer Signature

SECTION C: TO BE COMPLETED BY THE RECEIVING MEDICAL FACILITY (PLEASE PRINT)	
Facility Name:	Health Care Provider's Name:
Phone #:	Facility's Designated Officers Name:

Post Exposure Prophylaxis Indicated? ☐ YES ☐ NO If YES, Treatment Given: _____

<input type="checkbox"/> Source has NO known or probable infectious disease.	<input type="checkbox"/> Source has known or probable infectious disease.
<input type="checkbox"/> The Prehospital Responder has been informed of the results of the evaluation for exposure to blood and /or potentially infectious materials.	
Notification made by: <input type="checkbox"/> Phone <input type="checkbox"/> Mail <input type="checkbox"/> Email <input type="checkbox"/> Fax <input type="checkbox"/> Other _____	
Caller's Name: _____ Date: _____ Time (24 hr): _____	

☐ The Prehospital Responder has been told about health conditions that could result from exposure to blood and/or other potentially infectious materials which require further evaluation, follow-up and/or treatment.

Medical results, recommendations/treatment given and additional information:

HealthCare Provider's Signature_____
Title

THE INFORMATION PROVIDED ON THIS FORM IS CONFIDENTIAL

Appendix

A Decade of Achievements...



Page Left Blank Intentionally

APPENDIX

Newspaper articles published in 2009

- ◆ Push of a button may help save move lives. States first automatic CPR machine gives Sussex County Paramedics more time. *Story featured in the News Journal.*
- ◆ Delaware schools: Turning his loss into other's gain. *Story featured in the News Journal*
- ◆ A cool way - literally - to help cardiac arrest victims. *Story featured in the News Journal*
- ◆ NCCo paramedics finish ambulance accreditation. *Story featured in the News Journal*
- ◆ Paramedics warn shovelers of risk of cardiac arrest. *Story featured in the News Journal*
- ◆ NCCo Paramedics get new tool to detect carbon monoxide. *Story featured in the News Journal*
- ◆ Learning to be paramedics. St. Georges students enroll in Del's EMS program. *Story featured in the News Journal.*
- ◆ Perfect timing, new treatment help save life. *Story featured in Seaford Star.*
- ◆ Director, dispatchers win service awards. *Story featured in Seaford Star.*



Thank You

The Delaware Emergency Medical Services Oversight Council (DEMSOC) would like to express a sincere thank you to all the agencies that submitted photos and text for this years DEMSOC report. ~ Office of EMS, DSFS, PHPS, Del. Tech.

Community College, State Fire Marshall's Office, NCCEMS, KCEMS, SCEMS, DSP, CCHS Lifenet, Healthcare Association, NCC dispatch, KC dispatch, SC dispatch, Rehoboth dispatch, Seaford dispatch, Injury Prevention Coalition, Burn Camp, Hockessin Fire Co., Millcreek Fire Co., Middletown Fire Co., Port Penn Fire Co., Goodwill Fire Co., Five Points Fire Co., Del. City Fire Co., Cheswold Fire Co., Harrington Fire Co., Roxanna Fire Co., Blades Fire Co., Millsboro Fire Co., Seaford Fire Co., Dagsboro Fire Co., Bridgeville Fire Co., Bethany Beach Fire Co., and Lewes Fire Co.